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)

Adams, Charles

PD January 1991. **TI** On Interpreting the Random Walk Behavior of Nominal and Real Exchange Rates. **AU** Adams, Charles; Chadha, Bankim. **AA** International Monetary Fund. **SR** International Monetary Fund Working Paper: WP/91/7; International Monetary Fund, Washington, DC 20431. **PG** 20. **PR** not available. **JE** F31. **KW** Exchange Rate. Random Walk.

AB The random walk property of exchange rates is frequently regarded as carrying strong implications for the kinds of shocks that have driven exchange rates and the models appropriate for analyzing their behavior. This paper conducts stochastic simulations of Dornbusch's (1976) sticky price monetary model, calibrated for representative parameter values for the United States. It shows that the model is capable of generating time series for both real and nominal exchange rates that are statistically indistinguishable from random walks when all shocks are nominal.

Agenor, Pierre-Richard

PD December 1990. **TI** Parallel Currency Markets in Developing Countries: Theory, Evidence, and Policy Implications. **AA** International Monetary Fund. **SR** International Monetary Fund Working Paper: WP/90/114; International Monetary Fund, Washington, DC 20431. **PG** 40. **PR** not available. **JE** F33, F31. **KW** Developing Countries. Exchange Rate. Currency.

AB The paper reviews recent theoretical and empirical developments in the analysis of informal currency markets in developing countries. The basic characteristics of these markets are highlighted, and alternative analytical models to explain them are discussed. The implications for exchange rate policy -- including imposition of foreign exchange restrictions, devaluation, and unification of exchange markets -- in countries with a sizable parallel market are also examined.

PD February 1991. **TI** A General Equilibrium Model with Informal Financial Markets. **AU** Agenor, Pierre-Richard; Haque, Nadeem U.; Montiel, Peter J. **AA** International Monetary Fund. **SR** International Monetary Fund Working Paper: WP/91/18; International Monetary Fund, Washington, DC 20431. **PG** 38. **PR** not available. **JE** F41, O17, O16. **KW** Developing Country. Open Economy Model. Financial Markets.

AB The paper presents a general equilibrium framework for short-run macroeconomic analysis in developing country context where controls on interest rates and foreign exchange restrictions lead to the emergence of informal financial markets. The complexity of the model precludes an analytical treatment. A simulation approach, based on parameters derived from estimates in the existing literature, is used to assess the properties of the model, which differ in important ways from those of standard open economy models.

Aghion, Philippe

PD September, 1991. **TI** Growth and Unemployment. **AU** Aghion, Philippe; Howitt, Peter. **AA** Aghion: European Bank for Reconstruction and Development, London and DELTA. Howitt: Department of Economics, University of Western Ontario. **SR** CEPR Discussion Paper: 577; Centre for Economic Policy Research, 6 Duke of York Street, London SW1Y 6LA, United Kingdom. **PG** 38. **PR** Pounds 3.00 or $5.00. **JE** D58, D60, J64, O33. **KW** Innovations. Frequency. Vacancies. Creative Destruction. Capitalization. Complementarities.

AB This paper examines the long-run effects of growth on unemployment. It assumes that growth arises explicitly from the introduction of new technologies which require labour re-allocation for their implementation. Using a variant of the search theory developed by Pissarides, the paper shows how unemployment is affected by growth both directly, through thejob-destruction rate and indirectly, through its effects on the incentive for firms to create job openings. Our results can be summarized as follows: first, the sign of the overall effect of growth on unemployment depends upon its source (more growth can result from an increase ineither the size or the frequency of innovations, from human capital accumulation through learning-by-doing etc.); second, the size and sign of the overall effect of growth on unemployment depends upon the degree of complementarity in demand across consumption at different points in time and across sectors at a given point in time. Finally, endogenizing the growth process (through, for example, endogenizing the research activities that determine the size and frequency of innovations or through introducinglearning by doing with positive external effects across sectors) introduces new interactions between growth and unemployment. It also creates the possibility of multiple equilibria, and gives rise to a role for government intervention.

PD September, 1991. **TI** On the Virtue of Bad Times: An Analysis of the Interaction between Economic Fluctuations and Productivity Growth. **AU** Aghion, Philippe; Saint-Paul, Gilles. **AA** Aghion: European Bank for Reconstruction and Development, London and DELTA. Saint-Paul: DELTA and CERAS, Paris. **SR** CEPR Discussion Paper: 578; Centre for Economic Policy Research, 6 Duke of York Street, London SW1Y 6LA, United Kingdom. **PG** 56. **PR** Pounds 3.00 or $5.00. **JE** C68, D21, D50, D92. **KW** Productivity Growth. Recessions. Expansions. Productivity Shocks. Job Destruction. Job Creation.

AB This paper develops a simple model which shows how economic fluctuations can stimulate growth. It is shown that firms tend to invest more into productivity growth, during rexessions, since the opportunity cost (in terms of foregone profits) ofinvesting capital or labour resources in technological (ormanagerial) improvements is lower during recessions. It is then established that the average growth rate of the economy increases with the amplitude of the fluctuations and also withtheir frequency provided that the initial average duration of recession phases is sufficiently low compared with that of the expansion phases. Finally, the main results of the paper areshown to be consistent with the empirical evidence recently produced by Davis-Haltiwanger (1990) or Blanchard-Diamond (1990) concerning the cyclical behaviour of job re-allocation.

Albaek, Svend

PD January 1991. **TI** Manufacturer-Retailer Relations when the Wholesale Price Signals Demand Intensity. **AU** Albaek, Svend; Overgaard, Per Baltzer. **AA** University of Aarhus. **SR** Aarhus Institute of Economics Memo: 1991-1; Institute of Economics, University of Aarhus, Building 350, Universitetsparken, DK-8000 Aarhus C, DENMARK. **PG** 25. **PR** no charge. **JE** D82, L42, D42. **KW** Demand Uncertainty. Price Signaling. Monopoly. Prices.

AB This paper discusses the vertical relation between a monopolist manufacturer and a monopolist retailer in a simple linear demand/constant unit cost framework. The manufacturer is privately informed about the demand intercept, which may take on two values. The vertical relation is set up as a signaling game, where the manufacturer moves first by setting the wholesale price which is then observed by the retailer. Using a refined equilibrium notion, we show that this game has a unique self-enforcing equilibrium outcome, which is fully revealing of the private information. At this equilibrium outcome, the wholesale price of the low demand type of manufacturer is biased downwards relative to the optimal price in the absence of private information, whereas the price of the high demand type is unbiased. It follows that on average the retail price is biased downwards to the benefit of the consumers and the retailer.

Alesina, Alberto

PD June, 1991. **TI** Distributive Politics and Economic Growth. **AU** Alesina, Alberto; Rodrik, Dani. **AA** Alesina: NBER. Rodrik: NBER. **SR** CEPR Discussion Paper: 565; Centre for Economic Policy Research, 6 Duke of York Street, London SW1Y 6LA, United Kingdom. **PG** 50. **PR** Pounds 3.00 or $5.00. **JE** 025, 111. **KW** Income Distribution. Endogenous Growth. Political Conflict.

AB This paper studies the relationship between political conflict and economic growth in a simple model of endogenous growth with distributive conflicts. We study both the case of two 'classes' (workers and capitalists) and the case of a continuum distribution of agents, characterized by their relative shares of capital and labour. We establish several results concerning the relationship between the political influence of the two groups and the level of taxation, public investment, redistribution of income and growth. For example, we show that policies which maximize growth are optimal only for a government that cares only about the 'capitalist'. Also, we show that in a democracy (where the 'median voter theorem' applies) the rate of taxation is higher and the rate of growth lower, the more unequal is the distribution of wealth. We present empirical results consistent with these implications of the model.

PD July 1991. **TI** Why are Stabilizations Delayed? **AU** Alesina, Alberto; Drazen, Allan. **AA** Alesina: Harvard University, NBER, and CEPR. Drazen: University of Maryland, Tel Aviv University, and NBER. **SR** Tel Aviv Sackler Institute of Economic Studies Working Paper: 6-91; Department of Economics, Tel Aviv University, Ramat Aviv 69978, Tel Aviv, ISRAEL. **PG** 46. **PR** no charge. **JE** E61, E63, D78, D74. **KW** Stabilization Policy. Political Economy. Political Processes.

AB When a stabilization has significant distributional implications (as in the case of tax increases to eliminate a large budget deficit) different socio-economic groups with conflicting distributional objectives may attempt to shift the burden of stabilization onto other groups. The process leading to a stabilization becomes a "war of attrition," with each group finding it rational to attempt to wait the others out, and stabilization occurring only when one group concedes and is forced to bear a disproportionate share of the burden of fiscal adjustment. We solve for the expected time of stabilization in a model of "rational" delay based on a war of attrition and present comparative statics results relating the expected time of stabilization to several political and economic variables. We motivate this approach and its results by comparison to historical and current episodes.

PD July, 1991. **TI** The European Central Bank: Reshaping Monetary Politics in Europe. **AU** Alesina, Alberto; Grilli, Vittorio. **AA** Alesina: Department of Economics, Harvard University. Grilli: Department of Economics, Birkbeck College, London. **SR** CEPR Discussion Paper: 563; Centre for Economic Policy Research, 6 Duke of York Street, London SW1Y 6LA, United Kingdom. **PG** 54. **PR** Pounds 3.00 or $5.00. **JE** 432. **KW** European Monetary System. Central Bank Independence. Political Economy. ECB.

AB This paper studies how the creation of a European Central Bank (ECB) will change the political economy of monetary policy in Europe. The 12 governors of the EC member countries national central banks of the EEC 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 analyse the role of the political independence of the ECB and the effect on policy choices of voting rules for appointing ECB board members.

Alexander, Ian

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

Allen, Beth

PD April 1991. **TI** Transferable Utility Market Games with Asymmetric Information: Representation Results and the Core. **AA** University of Pennsylvania. **SR** University of Pennsylvania Center for Analytic Research in Economics and the Social Sciences (CARESS) Working Paper: 91-16; 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, D81, D82. **KW** Cooperative Games. Asymmetric Information. Uncertainty. Coalitions.

AB Cooperative games generated by markets with uncertainty and asymmetric information are analyzed for the transferable utility case. The information available to coalition members is formalized by information sharing rules. Nestedness of information sharing rules provides a necessary and sufficient condition for the total balancedness of all market games derived from such economies. The weaker assumption of boundedness is necessary and sufficient for balancedness of all market games derived from the information sharing rule and hence is equivalent to nonemptiness of the core. Spaces of TU market games with asymmetric information are also examined.

PD April 1991. **TI** Market Games with Asymmetric Information: The Value. **AA** University of Pennsylvania. **SR** University of Pennsylvania Center for Analytic Research in Economics and the Social Sciences (CARESS) Working Paper: 91-08; University of Pennsylvania, Center for Analytic Research in Economics and the Social Sciences, McNeil Building, 3718 Locust Walk, Philadelphia, PA 19104-6297. **PG** 37. **PR** no charge. **JE** D51, D81, D82, C71. **KW** Market Games. Exchange Economy. Cooperative Games. Uncertainty. Asymmetric Information.

AB This paper extends the Shapley value to market games derived from pure exchange economies under uncertainty with asymmetric information. The economic motivation for this work is based on the recent and growing literature on information sharing among economic agents (i.e., in an oligopoly or a cooperative research and development venture) as well as the fundamental question of how to define the information available to agents in a cooperative game. Both the transferable and nontransferable utility cases are analyzed for n-person games. We consider alternative information sharing rules for coalitions.

PD April 1991. **TI** Market Games with Asymmetric Information and Nontransferable Utility: Representation Results and the Core. **AA** University of Pennsylvania. **SR** University of Pennsylvania Center for Analytic Research in Economics and the Social Sciences (CARESS) Working Paper: 91-09; University of Pennsylvania, Center for Analytic Research in Economics and the Social Sciences, McNeil Building, 3718 Locust Walk, Philadelphia, PA 19104-6297. **PG** 40. **PR** no charge. **JE** D82, C70, D51, D81. **KW** Exchange Economies. Uncertainty. Asymmetric Information. Market Games.

AB This paper extends the concept of market games derived from pure exchange economies to the broader class of pure exchange economies under uncertainty with asymmetric information. The economic motivation for this work is derived from the recent and growing literature on information sharing among economic agents (i.e., in an oligopoly or a cooperative research and development venture) as well as from the fundamental question (for instance, see Wilson's study of the core with asymmetric information) of how to define the information available to coalitions in a cooperative game. The paper proceeds by re-examining the equivalence between market games and totally balanced games. Then we consider alternative definitions of the information available to coalitions and the cooperative games they generate.

Alter, Rolf G.

PD December 1990. **TI** Export Processing Zones for Growth and Development: The Mauritian Example. **AA** International Monetary Fund. **SR** International Monetary Fund Working Paper: WP/90/122; International Monetary Fund, Washington, DC 20431. **PG** 39. **PR** not available. **JE** O41, O11. **KW** Economic Development. Developing Countries. Exports.

AB This paper examines the role that the Export Processing Zone (EPZ) in Mauritius has played in the growth and development of the country. The EPZ's success in contributing to a substantial diversification into manufactures, creating employment on a large scale, and becoming an important source of exports and foreign exchange earnings is attributed not only to a very competitive policy package, but also to the market-oriented, outward-looking macroeconomic policies and to a favorable global environment. The Mauritian EPZ could thus serve as a model for growth and development in other developing economies that are seeking to diversify beyond the export of commodities.

Altonji, Joseph G.

PD June 1991. **TI** Relationships among the Family Incomes and Labor Market Outcomes of Relatives. **AU** Altonji, Joseph G.; Dunn, Thomas A. **AA** Altonji: Northwestern University and National Bureau of Economic Research. Dunn: Northwestern University. **SR** National Bureau of Economic Research Working Paper: 3724; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PG** 69. **PR** $2.00. **JE** J21, J31, J24. **KW** Intergenerational Model. Wages. Labor Market. Job Turnover. Labor Supply.

AB This paper examines the links between the labor market outcomes of individuals who are related by blood or by marriage using panel data on pairs of matched family members from the National Longitudinal Survey of Labor Market Experience. We examine the intergenerational and sibling correlations among a broad set of labor market variables using time average, method of moments and regression techniques designed to reduce the biases introduced by transitory and measurement errors. We also show that family data can be exploited to investigate theories of job turnover, labor supply, and the industry structure of wages.

Amihud, Yakov

PD September 1990. **TI** Volatility, Efficiency and Trading: Evidence from the Japanese Stock Market. **AU** Amihud, Yakov; Mendelson, Haim. **AA** Amihud: New York University. Mendelson: Stanford University. **SR** New York University Salomon Brothers Center Working Paper: S-91-13; Salomon Brothers Center for the Study of Financial Institutions, Graduate School of Business Administration, New York University, 90 Trinity Place, New York, NY 10006. **PG** 33. **PR** $5.00. **JE** G12, G14, G15. **KW** Stock Market. Japan. Financial Markets.

AB We study the joint effect of the trading mechanism and the time at which transactions take place on the behavior of stock returns using data from Japan. The Tokyo Stock Exchange employs a periodic clearing procedure twice a day, at the opening of both the morning and afternoon sessions. This enables us to discern the effect of the clearing mechanism from the effect of the overnight trading halt. While the periodic clearing at the beginning of the trading day is noisy and inefficient, the mid-day clearing transaction appears to be no worse than the two closing transactions.

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 March 1990. **TI** Demand Management towards Internal and External Balance in an Open Economy with Centralized Wage Setting. **AA** University of Aarhus. **SR** Aarhus Institute of Economics Memo: 1990-8; Institute of Economics, University of Aarhus, Building 350, Universitetsparken, DK-8000 Aarhus C, DENMARK. **PG** 22. **PR** no charge. **JE** F41, J51, J23. **KW** Stabilization Policy. Crowding Out. Open Economy. Collective Bargaining. Wages. Trade Theory.

AB The efficiency of demand management policies is considered in a two-sector model of a small and open economy with centralized wage bargaining. Differences in labor demand between sectors are shown to have qualitative implications for the responsiveness of wages to changes in output prices. Wage increases induced by increased demand in one sector may thus crowd out activity in other sectors, and this has important consequences for the effects of demand management policies on internal and external goals. A often proposed and practiced policy of switching demand from tradables to non-tradables to ensure internal and external balance is analyzed.

PD April 1990. **TI** The Role of Credibility for the Effects of a Change in the Exchange Rate Policy. **AU** Andersen, Torben M.; Risager, Ole. **AA** University of Aarhus. **SR** Aarhus Institute of Economics Memo: 1990-23; Institute of Economics, University of Aarhus, Building 350, Universitetsparken, DK-8000 Aarhus C, DENMARK. **PG** 21. **PR** no charge. **JE** F31, E42, F41. **KW** Current Account. Credibility. Policy Regime. Exchange Rate.

AB This paper analyzes the real and monetary effects of a shift in the exchange rate policy in an economy where the private sector is uncertain about the true intentions of the government. In a finitely repeated game of incomplete information we show that a shift towards a tight, fixed exchange rate policy leads to a loss in output and to a deficit in the current account in the period in which the policy lacks credibility. We also analyze how nominal interest rates and the term structure adjust to the risk that the government might renege on its announced exchange rate target.

PD May 1990. **TI** Excess Supply and Demand in Markets with Pre-Set Prices. **AA** University of Aarhus. **SR** Aarhus Institute of Economics Memo: 1990-15; Institute of Economics, University of Aarhus, Building 350, Universitetsparken, DK-8000 Aarhus C, DENMARK. **PG** 16. **PR** no charge. **JE** D42, D81, D21. **KW** Prices. Goods Market. Monopoly. Uncertainty.

AB Casual empiricism suggests that excess supply prevails more often than excess demand in goods markets. Does this reflect that firms on average are more constrained by lack of demand in Keynesian sense or could this to the same extent reflect equilibrium behavior? The paper analyzes whether a firm facing an uncertain environment chooses prices and production such that excess supply prevails more often than excess demand.

PD August 1990. **TI** Interest Rate Spreads and Exchange Rate Variability. **AU** Andersen, Torben M.; Sorensen, Jan Rose. **AA** University of Aarhus. **SR** Aarhus Institute of Economics Memo: 1990-24; Institute of Economics, University of Aarhus, Building 350, Universitetsparken, DK-8000 Aarhus C, DENMARK. **PG** 31. **PR** no charge. **JE** E43, G15, F21, F31. **KW** Exchange Rate. Risk. Interest Rate. International Investment.

AB Interest rate spreads in excess of those predicted by the uncovered interest rate parity condition are commonly observed. It is of interest to analyze what determines these premia to understand international interest rate differentials as well as to evaluate the consequences for international capital markets of a reduction in exchange rate variability by establishing for instance a European Monetary Union. Will a reduction in variability reduce real rates of interest and for whom? To answer these questions we need to know whether and how risk premia depend on a country's consumption pattern, attitudes towards risk, competitive position, size, and debt position.

PD January 1991. **TI** Exchange Rate Risks, Interest Rates and European Monetary Integration. **AU** Andersen, Torben M.; Sorensen, Jan Rose. **AA** University of Aarhus. **SR** Aarhus Institute of Economics Memo: 1991-18; Institute of Economics, University of Aarhus, Building 350, Universitetsparken, DK-8000 Aarhus C, DENMARK. **PG** 19. **PR** no charge. **JE** F36, G15, F21. **KW** Exchange Rate. Interest Rate. Risk. European Monetary System. Capital Mobility.

AB The paper discusses prevailing interest rate spreads within the European Monetary System. This is related to a theoretical model of the pricing of exchange rate risk, which highlights important factors causing interest rate differentials among countries without restrictions on capital flows. The analysis is related to the discussion of potential effects of European monetary integration on financial markets.

TI Insider Power as a Cause of Excessive Employment. **AU** Vetter, Henrik; Andersen, Torben M.

PD February 1991. **TI** Insiders Meet a Non-Myopic Firm. **AU** Andersen, Torben M.; Vetter, Henrik. **AA** University of Aarhus. **SR** Aarhus Institute of Economics Memo: 1991-7; Institute of Economics, University of Aarhus, Building 350, Universitetsparken, DK-8000 Aarhus C, DENMARK. **PG** 22. **PR** no charge. **JE** D21, E24, J21, J23, J42. **KW** Insider Outsider Theory. Firm Behavior. Employment. Labor Hoarding.

AB The paper analyzes the extent to which firms can curtail the market power of insiders by changing their employment policy. Even though the model in other respects is constructed so as to strengthen insider effects, it is shown that a number of conclusions are reversed by such non-myopic firm behavior. In particular, insider power implies an incentive for firms to hoard labor as well as an asymmetric adjustment of employment such that employment reacts more to expansionary than to recessionary shocks.

PD May 1991. **TI** Differential Information and Excessive Volatility in Financial Markets. **AA** University of Aarhus. **SR** Aarhus Institute of Economics Memo: 1991-13; Institute of Economics, University of Aarhus, Building 350, Universitetsparken, DK-8000 Aarhus C, DENMARK. **PG** 20. **PR** no charge. **JE** G12, G14. **KW** Speculation. Information. Market Volatility. Expectations.

AB It is analyzed whether risk averse agents possessing different information trade in a zero-sum market. The key to generate trading in a zero-sum speculative market is whether expectations are "homogenized" through the trading process. If not, trading will take place and all agents expect to be able to exploit private information not fully revealed by market prices to make a speculative profit. The existence of a rational expectations equilibrium with heterogeneous expectations is proven to exist, and to imply excessive volatility of prices and trading volumes.

Andersson, Krister

PD December 1990. **TI** Taxation and the Cost of Capital in Hungary and Poland: A Comparison with Selected European Countries. **AA** International Monetary Fund. **SR** International Monetary Fund Working Paper: WP/90/123; International Monetary Fund, Washington, DC 20431. **PG** 24. **PR** not available. **JE** F21, G31, F15, H25. **KW** Taxes. Europe. International Investment.

AB This paper compares the effective rates of taxation faced by a representative investor located in a major capital-exporting country for investments in machinery and buildings in nine capital-importing European countries. Poland and Hungary are found to have relatively high effective tax rates on equity-financed investment. The analysis suggests that both countries would benefit from streamlining capital cost recovery allowances and possibly lowering statutory corporate tax rates -- as permitted by the revenue constraint -- rather than providing tax preferences for foreign investors.

Angrist, Joshua D.

PD August 1991. **TI** Estimating the Payoff to Schooling Using the Vietnam-Era Draft Lottery. **AU** Angrist, Joshua D.; Krueger, Alan B. **AA** Angrist: Harvard University and National Bureau of Economic Research. Krueger: Princeton University and National Bureau of Economic Research. **SR** Princeton Industrial Relations Section Working Paper: 290; Department of Economics, Princeton University, Princeton, NJ 08544-2098. **PG** 36. **PR** $1.50. **JE** J24, J31. **KW** Education. Ability. Earnings. Veterans. Human Capital.

AB During the Vietnam draft, priority for military service was randomly assigned to draft-age men in a series of lotteries. However, many men managed to avoid military service by enrolling in school and obtaining an educational deferment. This paper uses the draft lottery as a natural experiment to estimate the return to education and the veteran premium. Estimates are based on special extracts of the Current Population Survey that the Census Bureau assembled for 1979 and 1981-85. The results suggest that an extra year of schooling acquired in response to the lottery is associated with 6.6 percent higher weekly earnings. This figure is about 10 percent higher than the OLS estimate of the return to education for this sample, which suggests there is little ability bias in conventional estimates of the return to education. Our findings are robust to a variety of alternative assumptions about the effect of veteran status on earnings.

Arrau, Patricio

PD May 1991. **TI** The Demand for Money in Developing Countries: Assessing the Role of Financial Innovation. **AU** Arrau, Patricio; De Gregorio, Jose; Reinhart, Carmen M.; Wickham, Peter. **AA** Arrau: World Bank. De Gregorio, Reinhart and Wickham: International Monetary Fund. **SR** International Monetary Fund Working Paper: WP/91/45; International Monetary Fund, Washington, DC 20431. **PG** 31. **PR** not available. **JE** E41, E44, O57. **KW** Money Demand. Developing Countries. Inflation. Financial Markets.

AB Traditional specifications of money demand have been commonly plagued by persistent overprediction, implausible parameter estimates, and highly autocorrelated errors. This paper argues that some of those problems stem from the failure to account for the impact of financial innovation. We estimate money demand for ten developing countries employing various proxies for the innovation process and provide an assessment of the relative importance of this variable. We find that financial innovation plays an important role in determining money demand and its fluctuations, and that the importance of this role increases with the rate of inflation.

Bai, Jushan

TI The Impact of a Large Tax Increase on Cigarette Consumption: The Case of California. **AU** Hu, Teh-wei; Bai, Jushan; Keeler, Theodore E.; Barnett, Paul G.

Banerjee, Anindya

TI Estimating Intertemporal Quadratic Adjustment Cost Models with Integrated Series. **AU** Dolado, Juan; Galbraith, John W.; Banerjee, Anindya.

Bar-Ilan, Avner

PD July 1991. **TI** Explicit Solution of Inventory Problems with Delivery Lags. **AU** Bar-Ilan, Avner; Sulem, Agnes. **AA** Bar-Ilan: Tel Aviv University. Sulem: INRIA, Domaine de Voluceau, France. **SR** Tel Aviv Sackler Institute of Economic Studies Working Paper: 5-91; Department of Economics, Tel Aviv University, Ramat Aviv 69978, Tel Aviv, ISRAEL. **PG** 12. **PR** no charge. **JE** E22, D22, D20. **KW** Firm Behavior. Production. Inventory.

AB We consider a continuous time inventory system with fixed delivery lag, linear holding and penalty costs, and both fixed and proportional ordering cost. We show that the optimal policy is of the (s,S) type applied to the sum of the stock on hand plus stock ordered but not yet delivered. The optimal policy is explicitly obtained in the case of a one-dimensional diffusion demand process, by using the Quasi-Variational Inequalities method.

PD August 1991. **TI** Endogenous and Exogenous Restrictions on Search for Employment. **AU** Bar-Ilan, Avner; Levy, Anat. **AA** Bar-Ilan: Tel Aviv University. Levy: Bank of Israel and Tel Aviv University. **SR** Tel Aviv Foerder Institute for Economic Research Working Paper: 28-91; Department of Economics, Tel Aviv University, Ramat Aviv 69978, Tel Aviv, ISRAEL. **PG** 42. **PR** no charge. **JE** J41, J61, J64. **KW** Labor Mobility. Search Model. Labor Contracts.

AB This paper studies, within the framework of a general equilibrium search model, the employment effects of frictions on the mobility of workers between jobs. The model generates endogenous search on and off the job with two forms of labor contracts that emerge and co-exist in equilibrium. One that involves a long-term commitment to the firm by its workers, that is "reversed tenure," and another which requires no such commitment. The latter is a short-term contract characterized by low wages, low turnover costs, and active search on the job. When restrictions on workers mobility take the form of a zero-sum transfer, no real effect occurs as long as the transfer is below some bound. Above this bound, or when the transfer is made to a third party, employment among all types of individuals falls.

Barbe, Philippe

PD December 1990. **TI** Estimation Nonparametrique de l'Entropie et de l'Information de Kullback. **AA** Universite Paris VI. **SR** Unite de Recherche Document de Travail ENSAE/INSEE: 9105; INSEE, Unite de Recherche, 18 Bd. Adolphe Pinard, 75675 Paris Cedex 14, FRANCE. **PG** 43. **PR** no charge. **JE** C14, C13. **KW** Entropy. Spacings. Extreme Values. Maximum Likelihood.

AB We estimate the entropy from spacings S(i,n). Let H(n)*=(1/n) (the sum(of i an element of I(n)) of [Log[(n+1)S(i,n)] + gamma] where gamma is Euler's constant and I(n) is a suitable set of indices. We prove the consistency and the asymptotic normality of this estimator. Then we construct a goodness of fit test based on the Kullback-Leibler information criterion. We study a test for normality and exponentiality. We use H(n)* as a nonparametric estimate of the maximum of the likelihood in a parametric family. So we can limit the risk of obtaining a local maximum or a saddle point in numerical likelihood optimization procedures. Paper in French.

Bardhan, Pranab

PD July 1991. **TI** Market Socialism: A Case for Rejuvenation. **AU** Bardhan, Pranab; Roemer, John E. **AA** Bardhan: University of California at Berkeley. Roemer: University of California at Davis. **SR** University of California at Berkeley Working Paper in Economics: 91-175; IBER 156 Barrows Hall, University of California at Berkeley, Berkeley, CA 94720. **PG** 40. **PR** $3.50 plus applicable sales tax. **JE** P21, P23, P51, O16. **KW** Investment. Socialism. Capitalism. Economic Development.

AB In this paper we first discuss a market-mediated mechanism of investment planning which performs better than capitalism in terms of investment coordination, more egalitarian distribution, lower unemployment and production of public "bads." We then look at the inevitable question of the soft budget constraint, both as an agency problem and as a political problem. We propose a bank-centric system of insider monitoring which provides a partial solution to those twin problems.

Barnes, Jeffrey

TI The Costs of Employee Share Ownership Schemes. **AU** Richardson, Ray; Barnes, Jeffrey.

Barnett, Paul G.

TI Taxation, Regulation, and Addiction: A Demand Function for Cigarettes Based on Time-Series Evidence. **AU** Keeler, Theodore E.; Hu, Teh-wei; Barnett, Paul G.

TI The Impact of a Large Tax Increase on Cigarette Consumption: The Case of California. **AU** Hu, Teh-wei; Bai, Jushan; Keeler, Theodore E.; Barnett, Paul G.

Bayoumi, Tamim

PD December 1990. **TI** Output, Employment and Financial Sanctions in South Africa. **AA** International Monetary Fund. **SR** International Monetary Fund Working Paper: WP/90/113; International Monetary Fund, Washington, DC 20431. **PG** 40. **PR** not available. **JE** O55, O41, O16. **KW** Economic Growth. South Africa. Economic Development. Investment.

AB The effects of the marked slowdown in the growth of the capital stock in South Africa since 1985, associated with political uncertainty and financial sanctions, and future growth prospects are quantified using a modified version of the Lewis development model. This is done by estimating production functions for the nonprimary and mining sectors of the South African economy involving skilled (white) labor, unskilled (nonwhite) labor and capital. It is concluded that each 1 percent change in the growth rate of the capital stock leads to a O.8 percent change in output growth, and hence the fall in investment since 1985 has lead to significant falls in growth, employment and real wages.

PD January 1991. **TI** The Determinants and Efficiency of Local Authority Spending in England. **AU** Bayoumi, Tamim; Gordon, James. **AA** International Monetary Fund. **SR** International Monetary Fund Working Paper: WP/91/9; International Monetary Fund, Washington, DC 20431. **PG** 25. **PR** not available. **JE** H72, H71. **KW** Government Spending. Local Governments. Taxes.

AB This paper analyzes the efficiency and determinants of local authority expenditure in England during 1989/90. The capitalization of local spending in house prices is used as a test of efficiency, and it is found that local services are in general excessive from this standpoint. The determinants of local government spending are then estimated and local incomes, the tax price faced by the electorate, and local party control are found to be significant. Application of the analysis to the recently introduced local government reforms suggest small effects on the overall level of spending.

Ben-Porath, Elchanan

PD August 1991. **TI** Repeated Games with Finite Automata. **AA** Tel Aviv University and Northwestern University. **SR** Tel Aviv Sackler Institute of Economic Studies Working Paper: 7-91; Department of Economics, Tel Aviv University, Ramat Aviv 69978, Tel Aviv, ISRAEL. **PG** 30. **PR** no charge. **JE** C71. **KW** Repeated Games. Cooperative Games.

AB The paper examines the asymptotic behavior of the set of equilibrium payoffs in a repeated game when there are bounds on the complexity of the strategies players may select. The complexity of a strategy is measured by the size of the minimal automaton that can implement it. The main result is that in a zero-sum game, when the size of the automata of both players go together to infinity, the sequence of values converges to the value of the one-shot game. This is true even if the size of the automata of one player is a polynomial of the size of the automata of the other player. The result for the zero-sum games gives an estimation for the general case.

Benhabib, Jess

PD April 1991. **TI** Social Conflict, Growth and Income Distribution. **AU** Benhabib, Jess; Rustichini, Aldo. **AA** Benhabib: New York University. Rustichini: Northwestern University. **SR** New York University Economic Research Reports: 91-22; New York University, Faculty of Arts and Science, Department of Economics, Washington Square, New York, N.Y. 10003. **PG** 65. **PR** no charge. **JE** O41, D31, D23. **KW** Dynamic

Games. Property Rights. Wealth Distribution.
AB In this paper we study the relationship between wealth, income distribution and growth in a game-theoretic context in which property rights are not completely enforceable. We consider equilibrium paths of accumulation which yield players utilities that are at least as high as those that they could obtain by appropriating higher consumption at the present and suffering retaliation later on. We focus on those subgame perfect equilibria which are constrained Pareto-efficient (second best). In this set of equilibria we study how the level of wealth affects growth. In particular we consider cases which produce classical traps (with standard concave technologies): growth may not be possible from low levels of wealth because of incentive constraints while policies (sometimes even first-best policies) that lead to growth are sustainable as equilibria from high levels of wealth.

PD April 1991. **TI** The Aggregate Effects of Monetary Externalities. **AU** Benhabib, Jess; Farmer, Roger. **AA** Benhabib: New York University. Farmer: University of California, Los Angeles. **SR** New York University Economic Research Reports: 91-24; New York University, Faculty of Arts and Science, Department of Economics, Washington Square, New York, N.Y. 10003. **PG** 33. **PR** no charge. **JE** D62, D51, E13. **KW** Externalities. Monetary Economy.
AB We construct a theoretical model of a monetary economy in which money is used to facilitate exchange. Our model differs from existing approaches by allowing an important role for an externality in transacting. We calibrate the model and argue that the calibrated model has rational expectations equilibria in which beliefs may influence allocations independently of fundamentals. One of these equilibria provides a way of understanding the covariance of prices and money in small vector autoregressions.

Bennett, Elaine

PD May 1991. **TI** Entry, Divorce and Re-marriage in Matching Markets. **AA** Johns Hopkins University and University of Kansas. **SR** Johns Hopkins Department of Economics Working Paper: 265; Department of Economics, Johns Hopkins University, Baltimore, Maryland 21218. **PG** 13. **PR** no charge. **JE** J12. **KW** Entry. Marriage Markets.
AB This paper investigates the effect of entry on marriage markets. The paper presents a natural adjustment process for marriage markets and shows that entry on one side of the market makes that side worse off and the other side better off than before entry occurred. An example shows that the adjustment process described by Roth and Vande Vate lacks this property; there may be winners and losers on both sides.

Bergstrom, Theodore

PD April 1991. **TI** The Two-Sex Problem and the Marriage Squeeze in an Equilibrium Model of Marriage Markets. **AU** Bergstrom, Theodore; Lam, David. **AA** University of Michigan. **SR** University of Michigan Center for Research on Economic and Social Theory Working Paper: 91-7; Department of Economics, University of Michigan, Ann Arbor, Michigan 48109. **PG** 17. **PR** not available. **JE** J12, J11. **KW** Marriage. Families. Demographics.
AB This paper develops a model of marriage market equilibrium that can be used to analyze the effects of age structure on marriage patterns. The model clarifies a number of issues in the literature on the "two-sex problem" and the "marriage squeeze." Particular emphasis is placed on the age difference between spouses as an equilibrating mechanism in marriage markets. The model follows the spirit of Becker's application of the Koopmans-Beckman assignment model to marriage markets (Becker, 1973, 1981). We derive conditions for the assignment of marriage partners among men and women born in different cohorts and use the results to analyze the effects of fluctuations in cohort size fluctuations on marriage markets. The results indicate that even large changes in cohort size can be absorbed by relatively modest adjustments in the age difference between spouses, with no necessary adjustments in the proportions of men and women marrying.

Berkovec, James A.

PD June 1991. **TI** Changes in the Cost of Equity Capital for Bank Holding Companies and the Effects on Raising Capital. **AU** Berkovec, James A.; Liang, J. Nellie. **AA** Board of Governors of the Federal Reserve System. **SR** Board of Governors of the Federal Reserve System Finance and Economics Discussion Series: 160; C/O Steven A. Sharpe, Mail Stop 89, Federal Reserve Board, Washington, DC 20551. **PG** 36. **PR** no charge. **JE** G21, G31, G32. **KW** Capital. Banking. Banks. Capital Structure.
AB This study attempts to determine whether the cost of equity capital for banking firms has increased over 1962-89. Several different indicators of the cost of new equity capital - realized returns, risk, and price-earnings ratios - are analyzed for a portfolio of banking firms and compared to the general market. The evidence suggests that the cost of equity capital for banking firms, as of year-end 1989, has increased somewhat relative to the market since the late 1970's, but the increase is small in magnitude. Increased risk of banking firms' stocks could account for a small relative increase. The small increase, however, cannot explain the large observed decline in the price-earnings ratios for banking firms relative to the general market. Rather, a substantial portion of the relative decline in the relative price-earnings ratio can most likely be explained by lower expected growth rates of earnings for banking firms.

Berlin, Mitchell

PD March 1991. **TI** Deposit Insurance: What are the Issues and What Needs to be Fixed? **AU** Berlin, Mitchell; Saunders, Anthony; Udell, Gregory F. **AA** New York University. **SR** New York University Salomon Brothers Center Working Paper: S-91-18; 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** 35. **PR** $5.00. **JE** G21, G28. **KW** Commercial Banks. Banking. Bank Regulation.
AB The current problems in the commercial banking industry have led to widespread calls for reform of the deposit insurance contract on the grounds that it promotes moral hazard. We review the empirical evidence for the significance of moral hazard as an important cause of the present crisis. We then evaluate various reform proposals grouped into two broad classes: proposals that seek to impose greater discipline on bank stockholders and proposals to increase the disciplinary role of bank debtholders. Finally, we identify some issues that have received inadequate attention in the literature on bank regulation.

Bernhardt, Dan

TI Job Search Strategy, Expected Wages, and Sectoral Movers and Stayers. **AU** Thomas, Jonathan; Bernhardt, Dan.

PD May 1991. **TI** Promotion, Turnover and Preemptive Wage Offers. **AU** Bernhardt, Dan; Scoones, David. **AA** Queen's University. **SR** Queen's Institute for Economic Research Discussion Paper: 817; Department of Economics, Queen's University, Kingston, Ontario, CANADA K7L 3N6. **PG** 39. **PR** $3.00 Canada; $3.00 U.S.; $3.50 foreign. **JE** J31, J41, J63. **KW** Wages. Turnover. Job Matching. Promotion.

AB This paper examines the strategic promotion and wage decisions of employers when employees may be more valuable to competing firms, even in the presence of firm specific human capital. Competing employers must incur a cost to learn the quality of their match with a manager. Because promotion signals that workers are potentially valuable managers in other firms, it can induce turnover. To preempt competition for a promoted worker, an employer may offer a wage so high that it discourages competitors from acquiring information and bidding up the wage further or hiring the worker away. Also, to avoid competition, employers will fail to promote some less well-matched workers who should be promoted.

Bernstein, Jeffrey I.

PD April 1991. **TI** Investment, Depreciation, and Capital Utilization: Theoretical and Simulation Results. **AU** Bernstein, Jeffrey I.; Nadiri, M. Ishaq. **AA** Bernstein: Carleton University. Nadiri: New York University. **SR** New York University Economic Research Reports: 91-21; New York University, Faculty of Arts and Science, Department of Economics, Washington Square, New York, N.Y. 10003. **PG** 39. **PR** no charge. **JE** O41, E13, E17, E22. **KW** Investment. Depreciation. Capital Utilization.

AB A model of investment and capital utilization is developed. The problem of capital utilization is considered in a context of joint products of current output and capital output. Capital utilization decisions are forward-looking and represent a trade-off between current and future output production. In the paper the dynamic adjustment paths of investment and utilization are determined. The path of capital utilization is a flexible accelerator and depends on changes in product price, wage rate and interest rate. In addition, model simulations are undertaken through a parameterization of the production, adjustment cost, and duration cost functions to show how sensitive capital utilization is to changes in the coefficients determining capital accumulation.

Bertola, Giuseppe

PD July 1991. **TI** Trigger Points and Budget Cuts: Explaining the Effects of Fiscal Austerity. **AU** Bertola, Giuseppe; Drazen, Allan. **AA** Bertola: Princeton University, IGIER, and CEPR. Drazen University of Maryland and NBER. **SR** Tel Aviv Foerder Institute for Economic Research Working Paper: 26-91; Department of Economics, Tel Aviv University, Ramat Aviv 69978, Tel Aviv, ISRAEL. **PG** 22. **PR** no charge. **JE** E21, E62, D84. **KW** Consumption. Government Spending. Expectations. Fiscal Policy.

AB In several countries the correlation between private consumption and government spending is positive when government spending is high relative to GDP and negative when it is low. We propose and solve an optimizing model which explains the phenomenon in terms of expectational effects. If government spending follows an upward-trending stochastic process which the public believes may fall sharply when it reaches specific "trigger points," the optimizing consumption behavior and simple budget constraint arithmetic imply a theoretical relationship very similar to the empirical one.

PD October, 1991. **TI** Factor Shares and Savings In Endogenous Growth. **AA** Department of Economics, Princeton University. **SR** CEPR Discussion Paper: 576; Centre for Economic Policy Research, 6 Duke of York Street, London SW1Y 6LA, United Kingdom. **PG** 35. **PR** Pounds 3.00 or $5.00. **JE** O40, D72, D74. **KW** Endogenous Growth. Income Distribution. Post-Keynesian Theory.

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. It also 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.

Blackburn, Keith

PD January 1991. **TI** Contemporary Macroeconomic Fluctuations: An International Perspective. **AU** Blackburn, Keith; Ravn, Morten O. **AA** Blackburn: University of Southampton. Ravn: University of Southampton and University of Aarhus. **SR** Aarhus Institute of Economics Memo: 1991-12; Institute of Economics, University of Aarhus, Building 350, Universitetsparken, DK-8000 Aarhus C, DENMARK. **PG** 56. **PR** no charge. **JE** E32, O19, F41. **KW** Economic Fluctuations. Economic Development. International Markets.

AB This paper presents evidence on contemporary macroeconomic fluctuations in ten major OECD countries. Using quarterly data covering the past twenty years, we examine the statistical properties of the lower and higher frequency movements in key aggregate time series. We search for regularities in the data both across countries and across time. Our findings confirm that substantive cross-country and dynamic regularities do, indeed, exist. Attention is drawn to the most notable exceptions.

Blanchflower, David G.

PD May 1991. **TI** Self-Employment and Mrs. Thatcher's Enterprise Culture. **AU** Blanchflower, David G.; Oswald, Andrew J. **AA** Dartmouth College and London School of Economics. **SR** London School of Economics Centre for Economic Performance Discussion Paper: 30; Centre for Economic Performance, London School of Economics and Political Science, Houghton Street, London WC2A 2AE, UNITED KINGDOM. **PG** 24. **PR** no charge. **JE** M13, M21. **KW** England. Self-Employment. Entrepreneurship.

AB The paper studies self-employment in Great Britain using the British Social Attitude Surveys of 1983 to 1989. Drawing upon (i) direct survey questions, and (ii) econometric analysis, it finds no evidence for the hypothesis that there was an underlying upward trend in self-employment over the period. An "enterprise culture" apparently did not spring up between 1983 and 1989. The paper also summarizes the characteristics and attitudes of the self-employed. They are disproportionately older males, who have never been in a trade union, and who live in low unemployment areas.

Blejer, Mario I.

TI Forced Savings and Repressed Inflation in the Soviet Union: Some Empirical Results. **AU** Cottarelli, Carlo; Blejer, Mario I.

Boadway, Robin

TI The Redistributive Role of Minimum Wage Legislation and Unemployment Insurance. **AU** Marceau, Nicolas; Boadway, Robin.

Board of Governors of the Federal Reserv

PD June 1991. **TI** The Adequacy of U.S. Direct Investment Data. **AA** Stekler, Lois E.; Stevens, Guy V. G. **SR** Board of Governors of the Federal Reserve System International Finance Discussion Papers: 401; Division of International Finance, Board of Governors of the Federal Reserve System, Washington, DC 20551. **PG** 55. **PR** no charge. **JE** F21, C81, C82. **KW** Foreign Investment. Capital Mobility.

AB New questions dealing with the growth of foreign direct investment in the United States have prompted this reassessment of the adequacy of U.S. data on direct investment -- data on both foreign direct investment in the United States and U.S. direct investment abroad. We have examined the adequacy of the existing data system for answering important questions in a number of areas -- some of them new, but others of longstanding interest: the coverage and accuracy of the data, and the public's accessibility burden; the interaction between direct investment and the trade balance; the impact of direct investment operations on a country's economic welfare; and the explanation and forecasting of direct investment flows and activities. A series of conclusions and recommendations is collected in the last section of the paper.

Boetz, Charles J.

TI Games and Risk. **AU** Tullock, Gordon; Boetz, Charles J.

Bonanno, Giacomo

PD June 1991. **TI** Extensive Forms and Set-Theoretic Forms. **AA** University of California at Davis. **SR** University of California at Davis Economics Department Working Paper: 385; Department of Economics, University of California at Davis, Davis, CA 95616-8578. **PG** 16. **PR** not available. **JE** C71. **KW** Extensive Game. Isomorphism. Boolean Algebra. Propositional Logic.

AB We show that the set of choices in an extensive form game is isomorphic to a class of subsets of the set of initially possible outcomes. This enables us to introduce a new game form which we call the set theoretic form. We show that a set theoretic form can be associated with every extensive form. The notion of set theoretic form can be used to obtain a rigorous definition of simultaneous moves in extensive games and to study the logical structure of extensive form games.

Borensztein, Eduardo

PD April 1991. **TI** Proposals for Privatization in Eastern Europe. **AU** Borensztein, Eduardo; Kumar, Manmohan S. **AA** International Monetary Fund. **SR** International Monetary Fund Working Paper: WP/91/36; International Monetary Fund, Washington, DC 20431. **PG** 24. **PR** not available. **JE** L32, L33, P21, P52. **KW** Public Enterprises. Privatization. Europe. Financial Institutions.

AB This paper discusses several proposals for a wholesale privatization of public enterprises in Eastern Europe. These proposals include the distribution of "vouchers" to private citizens as well as the use of mutual funds, privatization companies, and other forms of financial intermediaries. The paper analyzes the implications for economic efficiency of the different forms of ownership and control that would emerge from the proposals as well as their main macroeconomic consequences.

PD June 1991. **TI** Savings, Investment, and Growth in Eastern Europe. **AU** Borensztein, Eduardo; Montiel, Peter J. **AA** International Monetary Fund. **SR** International Monetary Fund Working Paper: WP/91/61; International Monetary Fund, Washington, DC 20431. **PG** 31. **PR** not available. **JE** E21, E22, O47, O52. **KW** Capital Productivity. Investment. Economic Reform. Europe.

AB Even modest investment rates may achieve satisfactory rates of growth in the reforming economies of Eastern Europe because their relative capital scarcity implies high rates of productivity for capital. The most serious obstacle to private investment is uncertainty about the reform process, which can potentially rule out all but the most profitable projects. This problem sharply increases the payoff from accelerating the structural reform process. Regarding savings, critical aspects are the changes in methods of financing resulting from economic reform, and the availability of foreign savings, both in the form of loans and foreign direct investment.

Bos, Dieter

PD May 1991. **TI** When Employees Free Ride - A Theory of Inefficiency. **AU** Bos, Dieter; Peters, Wolfgang. **AA** University of Bonn. **SR** Universitat Bonn Sonderforschungsbereich 303 - Discussion Paper: A-327; Sonderforschungsbereich 303 an der Universitat Bonn Adenauerallee 24-42, D5300 Bonn 1, GERMANY. **PG** 19. **PR** no charge. **JE** J41, J22, J31, D21. **KW** Free Riding Problem. Nash Equilibrium. Wages. Incentives. Shirking.

AB The crucial problem of inefficiency, in our view, is related to the employees' noncooperative behavior, in more popular words to their free riding, to their unwarranted reliance on the activities of the others. If the others are already working busily, an employee may reduce his working load in order to enjoy more leisure. However, since all employees think like that, the result necessarily is inefficient production of the firm. As in any principal-agent setting, the principal will try to reduce free riding behavior by stipulating an incentive wage which causes employees to work harder. However, he is impeded by his inability to observe the precise extent of effort of any single employee. He can only observe the result of the employees' joint activity, measured for instance by output. Hence he cannot condition the employees' incomes on their effort, but only on output or some other observable variable. This incompleteness of the contract enables the employees to free ride.

Boughton, James M.

PD February 1991. **TI** What Have We Learned about Estimating the Demand for Money? A Multicountry Evaluation of some New Approaches. **AU** Boughton, James M.; Tavlas, George S. **AA** International Monetary Fund. **SR** International Monetary Fund Working Paper: WP/91/16;

International Monetary Fund, Washington, DC 20431. **PG** 36. **PR** not available. **JE** E41, O57. **KW** Money Demand.

AB This paper provides estimates of the demand for both narrow and broad monetary aggregates for the five largest industrial countries using two recent approaches: buffer stock and error correction models. The performances of these models are compared with several versions of the conventional partial adjustment model. Tests are performed in order to evaluate the parameter stability, post-sample predictive ability, encompassing properties, and economic implications of the models. The results are encouraging with respect to the newer models, as they significantly outperform the traditional approach. It is found that the error correction model is especially promising as a general approach.

PD May 1991. **TI** Commodity and Manufactures Prices in the Long Run. **AA** International Monetary Fund. **SR** International Monetary Fund Working Paper: WP/91/47; International Monetary Fund, Washington, DC 20431. **PG** 23. **PR** not available. **JE** O13, N10, E31. **KW** Commodities. Manufacturing. Prices.

AB The low level of primary commodity prices since 1985 is examined in the context of the behavior of those prices relative to prices of manufactured goods since 1854. The Prebisch-Singer hypothesis of a secular decline in relative commodity prices is sustained, but the recent decline is shown to be well outside the realm of historical experience. Commodity and manufactures prices are found to be cointegrated, conditional on the negative trend and a number of unexplained short-term swings. The earlier finding of a Gibson paradox is explained in terms of the difference between short- and long-run relationships.

Broll, Udo

TI Optimal Hedging by Firms with Multiple Sources of Risky Income. **AU** Zilcha, Itzhak; Broll, Udo.

Broze, L.

PD September 1990. **TI** Computation of Multipliers in Multivariate Rational Expectations Models. **AU** Broze, L.; Gourieroux, C.; Szafarz, A. **AA** Broze: Universite de Lille III. Gourieroux: CEPREMAP. Szafarz: Universite de Bruxelles. **SR** Unite de Recherche Document de Travail ENSAE/INSEE: 9103; INSEE, Unite de Recherche, 18 Bd. Adolphe Pinard, 75675 Paris Cedex 14, FRANCE. **PG** 38. **PR** no charge. **JE** D84, C32. **KW** Rational Expectation. Dynamic Model. Expectations.

AB The aim of this paper is the study of the path solutions of a multivariate rational expectations models. We describe several procedures for solving such dynamic systems based on either the adjoint operator method or the Smith form. As a by product we derive the dimension of the set of solutions in terms of martingale differences and the dimension of the set of linear stationary solutions when we restrict ourselves to the linear case. These dimensions are functions of the number of equations in the system, of the maximum lead and of the orders of some eigenvalues of the characteristic equation associated with the system.

Bullard, James

PD August 1991. **TI** Learning Equilibria. **AA** Federal Reserve Bank of St. Louis. **SR** Federal Reserve Bank of St. Louis Working Paper: 001; Research and Public Information Division, Federal Reserve Bank of St. Louis, P.O. Box 442, St. Louis, MO 63166. **PG** 30. **PR** not available. **JE** D83, D11. **KW** Learning. Overlapping Generations Model. Utility Function. Rational Expectations.

AB This paper employs the Hopf bifurcation theorem to prove the existence of complicated equilibrium trajectories under least squares learning in a standard version of the overlapping generations model. The periodic and quasiperiodic learning equilibria exist when the locally unique perfect foresight equilibrium is the monetary steady state, and thus are induced by the introduction of learning alone. Learning equilibria can be stable or unstable depending on higher order derivatives of the underlying utility function not specified by economic theory; examples of both attracting and repelling invariant closed curves are provided. This research confirms the intuition of some previous authors, who have suggested that stationary equilibrium trajectories under learning may differ from those under rational expectations.

Burda, Michael

PD August, 1991. **TI** German Trade Unions After Unification: Third Degree Wage Discriminating Monopolists? **AU** Burda, Michael; Funke, Michael. **AA** Burda: Institut Europeen d'Administration des Affaires. Funke: Department of Economics, Free University of Berlin. **SR** CEPR Discussion Paper: 573; Centre for Economic Policy Research, 6 Duke of York Street, London SW1Y 6LA, United Kingdom. **PG** 30. **PR** Pounds 3.00 or $5.00. **JE** O50, E24, J51, J61. **KW** German Unification. Labour Unions. Migration. Wage Determination.

AB After unification, real wages in Eastern Germany rose rapidly relative to labour productivity despite high and rising levels of unemployment. This substantial increase in wage levels relative to those in West Germany is difficult to explain without recourse to models of union behaviour 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

PD May 1991. **TI** Heterogeneity and Output Fluctuations in a Dynamic Menu-Cost Economy. **AU** Caballero, Ricardo; Engel, Eduardo M. R. A. **AA** Caballero: Columbia University. Engel: Universidad de Chile. **SR** Columbia Department of Economics Working Paper: 542; Department of Economics, Columbia University, New York, New York 10027. **PG** 37. **PR** $5.00. **JE** D23, D58, E23, E52. **KW** Menu Costs. General Equilibrium. Monetary Policy. Production. Output.

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 Caplin and Spulber [1987] steady state monetary neutrality result; (ii) show that uniqueness of equilibria depends not only on the degree of strategic complementarities but also on the degree of dispersion of firm's 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 May 1991. **TI** On the Dynamics of Aggregate Investment. **AA** Columbia University. **SR** Columbia Department of Economics Working Paper: 541; Department of Economics, Columbia University, New York, New York 10027. **PG** 36. **PR** $5.00. **JE** E22, C43. **KW** Investment. Aggregation.
AB In this paper I (i) survey recent advances in the theory of aggregate investment under irreversibility and other adjustment constraints; (ii) discuss some common fallacies resulting from the direct applications of static/microeconomic arguments about irreversible investment to dynamic/aggregate investment data, and (iii) outline a methodology to incorporate the new theoretical developments into empirical studies of LDC investment.

Calvo, Guillermo A.

PD December 1990. **TI** Money Supply and Interest Rate Policy in a New-Keynesian Framework. **AU** Calvo, Guillermo A.; Vegh, Carlos A. **AA** International Monetary Fund. **SR** International Monetary Fund Working Paper: WP/90/119; International Monetary Fund, Washington, DC 20431. **PG** 20. **PR** not available. **JE** E52, E42, E43, E31. **KW** Interest Rate. Monetary Policy. Inflation.
AB The central role of interest rates in the implementation of monetary policy has become more pronounced in recent years. Therefore, monetary policy should probably be viewed as including both the control of some monetary aggregate (money supply policy) and of some nominal interest rate (interest rate policy). This paper provides a unified treatment of both money supply and interest rate policy in a closed economy, sticky prices model, with special emphasis on temporary policies. It is shown that a temporary rise in the controlled interest rate initially lowers inflation but eventually leads to higher inflation.

PD December 1990. **TI** Management of the Nominal Public Debt Theory and Applications. **AU** Calvo, Guillermo A.; Guidotti, Pablo E. **AA** International Monetary Fund. **SR** International Monetary Fund Working Paper: WP/90/115; International Monetary Fund, Washington, DC 20431. **PG** 20. **PR** not available. **JE** H63, E62. **KW** Public Debt. Inflation. Government Spending. Fiscal Policy.
AB Optimal management of the public debt is explored in a context where economic policy is continuously revised because, when the public debt is non-indexed, policy-makers are tempted to use inflation in order to reduce the real value of the public debt. The model's implications are explored following two approaches. First, the effects of various exogenous disturbances are examined by means of numerical simulations. Secondly, the analysis explores - for Italy, Ireland, and the United States - if the model's implications concerning the maturity structure of government debt are consistent with actual experience.

PD January 1991. **TI** Speculative Attacks. **AU** Calvo, Guillermo A.; Guidotti, Pablo E. **AA** International Monetary Fund. **SR** International Monetary Fund Working Paper: WP/91/10; International Monetary Fund, Washington, DC 20431. **PG** 6. **PR** not available. **JE** F31, F32, D84. **KW** Speculation. Current Account. Exchange Rate.
AB A brief survey of the literature on speculative attacks is provided. The nature and causes of balance of payments crises, the implications for the behavior of the current account and the real exchange rate are discussed. Also, potential areas for future research on balance of payments crises are suggested.

PD February 1991. **TI** From Centrally-Planned to Market Economies: The Road from CPE to PCPE. **AU** Calvo, Guillermo A.; Frenkel, Jacob A. **AA** International Monetary Fund. **SR** International Monetary Fund Working Paper: WP/91/17; International Monetary Fund, Washington, DC 20431. **PG** 26. **PR** not available. **JE** O16, P23, P21. **KW** Market Economy. Prices. Financial Markets.
AB This paper deals with the early stages of transformation of centrally planned economies (CPEs) into market economies during which expectations play a key role. It focuses on the transitional phase during which the economy is not a CPE but has not yet become a market economy. During this phase the economy is referred to as a "previously centrally planned economy" (PCPE). A simple model is developed to analyze the consequences of expected price liberalization. The CPEs undergoing transformation lack depth and breadth of financial markets. The analysis illustrates the benefits from an early development of such markets.

PD July 1991. **TI** Obstacles to Transforming Centrally-Planned Economies: The Role of Capital Markets. **AU** Calvo, Guillermo A.; Frenkel, Jacob A. **AA** International Monetary Fund. **SR** International Monetary Fund Working Paper: WP/91/66; International Monetary Fund, Washington, DC 20431. **PG** 15. **PR** not available. **JE** O16, F34, G15, F13. **KW** International Markets. Credit. Debt. Trade Policy. Centrally Planned Economies.
AB This paper identifies obstacles hindering the transformation of centrally planned economies (CPEs) into well-functioning market economies. The obstacles identified relate to (i) anticipatory dynamics, (ii) monetary overhang and the budget, and (iii) underdeveloped credit markets. It is demonstrated that these obstacles inhibit the effectiveness of price reform, monetary and credit policies, and trade liberalization. The analysis focuses on various ways to remove the obstacles. In this regard, a special examination is made of the implications of "cleaning" the balance sheets of enterprises and banks from nonperforming loans, as well as ways to enhance credibility. The paper concludes with a brief discussion of sequencing, "safety nets," and their associated obstacles.

PD August 1991. **TI** Exchange-Rate-Based Stabilization under Imperfect Credibility. **AU** Calvo, Guillermo A.; Vegh, Carlos A. **AA** International Monetary Fund. **SR** International Monetary Fund Working Paper: WP/91/77; International Monetary Fund, Washington, DC 20431. **PG** 21. **PR** not available. **JE** F41, F31, E63, E31. **KW** Stabilization Policy. Exchange Rate. Devaluation. Inflation.
AB This paper analyzes stabilization policy under predetermined exchange rates in a cash-in-advance, staggered-prices model. Under full credibility, a reduction in the rate of devaluation results in an immediate and permanent reduction in the inflation rate, with no effect on output or consumption. In contrast, a non-credible stabilization results in an initial expansion of output, followed by a later recession. The inflation rate of home goods remains above the rate of devaluation

throughout the program, thus resulting in a sustained real exchange rate appreciation.

Campbell, John Y.

PD July 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** Princeton Financial Research Center Memorandum: 127; Financial Research Center, Department of Economics, Princeton University, Princeton, NJ 08544. **PG** 60. **PR** $3.00 U.S.; $6.00 foreign. **JE** G12. **KW** Stock Prices. Bond Prices. Interest Rates. Asset Pricing Model. Stock Market. Inflation.

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.

Campos, Julia

TI PC-GIVE and David Hendry's Econometric Methodology. **AU** Ericsson, Neil R.; Campos, Julia; Tran, Hong-Anh.

Canetti, Elie

PD July 1991. **TI** Monetary Growth and Exchange Rate Depreciation as Causes of Inflation in African Countries: An Empirical Analysis. **AU** Canetti, Elie; Greene, Joshua. **AA** International Monetary Fund. **SR** International Monetary Fund Working Paper: WP/91/67; International Monetary Fund, Washington, DC 20431. **PG** 26. **PR** not available. **JE** E31, E63, O55. **KW** Exchange Rates. Inflation. Developing Countries.

AB This paper examines the relative importance of monetary growth and exchange rate depreciation as causes of inflation in a sample of 10 Sub-Saharan African countries. Causality tests and impulse response functions derived from vector autoregression (VAR) analysis suggest that both monetary expansion and exchange rate adjustments cause inflation in a number of these countries. However, the failure of the tests to attribute the bulk of the variance in inflation in most of the countries to either variable suggests either a problem with the statistical technique or that some other factor -- perhaps structural bottlenecks or a measure of overall macroeconomic policy stance incorporating both monetary and exchange rate policy -- may be even more important as a determinant of inflation in African countries.

Canina, Linda

PD April 1991. **TI** The Informational Content of Implied Volatility. **AU** Canina, Linda; Figlewski, Stephen. **AA** Canina: Brown University. Figlewski: New York University. **SR** New York University Salomon Brothers Center Working Paper: S-91-20; 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** G11, G12, G14. **KW** Stock Market. Volatility. Market Efficiency. Option Prices.

AB Implied volatility is widely believed to be informationally superior to historical volatility, because it is the "market's" forecast of future volatility and the market is efficient with respect to information contained in past prices. The paper tests this joint hypothesis on S&P 100 index options, the most actively traded contract in the U.S.. We introduce a new methodology to correct for the nonindependence of implied volatilities computed from a cross section time series sample of option prices, which allows us to make full use of more than 17,000 closing prices in the analysis.

PD April 1991. **TI** The Informational Content of Implied Volatility. **AU** Canina, Linda; Figlewski, Stephen. **AA** Canina: Brown University. Figlewski: New York University. **SR** Brown University Department of Economics Working Paper: 91-16; Department of Economics, Brown University, Providence, Rhode Island 02912. **PG** 42. **PR** not available. **JE** G12, G14. **KW** Volatility. Stock Market. Options. Asset Pricing.

AB Implied volatility is widely believed to be informationally superior to historical volatility, because it is the "market's" forecast of future volatility and the market is efficient with respect to information contained in past prices. The paper tests this joint hypothesis on S&P 100 index options, the most actively trade contract in the U.S. We introduce a new methodology to correct for the nonindependence of implied volatilities computed from a cross-section time series sample of option prices, which allows us to make full use of more than 17,000 closing prices in the analysis.

Card, David

PD July 1991. **TI** Unemployment Insurance Taxes and the Cyclical Properties of Employment and Unemployment. **AU** Card, David; Levine Phillip. **AA** Card: Princeton University. Levine: Wellesley College. **SR** Princeton Industrial Relations Section Working Paper: 288; Department of Economics, Princeton University, Princeton, NJ 08544-2098. **PG** 50. **PR** $1.50. **JE** J65, J23, J64. **KW** Unemployment. Layoffs. Unemployment Insurance. Labor Demand.

AB The U.S. unemployment insurance system is financed by an experience-rated payroll tax. The system imposes a layoff or firing cost on employers, leading them to fire fewer workers in a downturn and hire fewer workers in an upturn. Increases in the degree of experience rating are therefore predicted to reduce the temporary layoff unemployment rate in a recession, and to lower employment at the peak of the business cycle. We combine Population Survey data for 1979-1987 with a newly assembled database of experience rating factors for individual states and industries to measure the effects of imperfect experience rating on temporary layoff unemployment rates over the cycle.

PD July 1991. **TI** The Effect of Unions on the Distribution of Wages: Redistribution or Relabelling? **AA** Princeton University. **SR** Princeton Industrial Relations Section Working Paper: 187; Department of Economics, Princeton University, Princeton, NJ 08544-2098. **PG** 52. **PR** $1.50. **JE** J31, J51. **KW** Unions. Wage Differentials. Wage Distribution.

AB This paper re-examines the connection between unions and wage inequality, focusing on three questions: (1) How does the union wage effect vary across the wage distribution? (2) What is the effect of unionism on the overall variance of wages at the end of the 1980's? (3) How much of the increase in the variance of wages over the 1970's and 1980's can be attributed to changes in the level and distribution of union coverage? Cross-sectional union wage gap estimates vary over the wage distribution, ranging from over 30 percent for lower wage workers to -10 percent for higher wage workers.

Carlos, Ann

PD May 1991. **TI** The Profitability of Early Canadian Railroads: Evidence from the Grand Trunk and Great Western Railway Companies. **AU** Carlos, Ann; Lewis, Frank D. **AA** Carlos: University of Colorado. Lewis: Queen's University. **SR** Queen's Institute for Economic Research Discussion Paper: 814; Department of Economics, Queen's University, Kingston, Ontario, CANADA K7L 3N6. **PG** 43. **PR** \$3.00 Canada; \$3.00 U.S.; \$3.50 foreign. **JE** N71. **KW** Railroads. Government Subsidies. Canada. Economic History.

AB This paper addresses whether government subsidies to two Canadian Railroads built in the 1850's - the Grand Trunk and the Great Western - made economic sense. The historical literature suggests that these railroads, although privately unprofitable, were socially profitable. Through a careful study of company records, we find that the Great Western was socially profitable and that a relatively small additional subsidy would also have made it privately profitable. But the Grand Trunk was privately unprofitable and probably socially unprofitable as well. The form of the subsidy offered the railroads - loan guarantees - and the consequences, have a depressingly up-to-date ring. While the Great Western received small amounts of limited guarantees, the Grand Trunk received considerable aid. The Grand Trunk was then encouraged to issue large amounts of heavily discounted debt, which contributed to its eventual failure.

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: Instituto di Economia Politica. **SR** CEPR Discussion Paper: 568; Centre for Economic Policy Research, 6 Duke of York Street, London SW1Y 6LA, United Kingdom. **PG** 58. **PR** Pounds 3.00 or \$5.00. **JE** 024, 026, 720. **KW** Coalitions. Environmental 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. N countries are assumed to 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.

Cass, David

PD June 1991. **TI** A Note on Generalizing the Model of Competitive Equilibrium with Restricted Participation on Financial Markets. **AU** Cass, David; Siconolfi, Paolo; Villanacci, Antonio. **AA** Cass: University of Pennsylvania. Siconolfi: Columbia University. Villanacci: University of Pennsylvania and Florence University. **SR** University of Pennsylvania Center for Analytic Research in Economics and the Social Sciences (CARESS) Working Paper: 91-13; University of Pennsylvania, Center for Analytic Research in Economics and the Social Sciences, McNeil Building, 3718 Locust Walk, Philadelphia, PA 19104-6297. **PG** 26. **PR** no charge. **JE** E44, D41, G10. **KW** Competitive Equilibrium. Financial Market.

AB The primary purpose of this note is to generalize the model of competitive equilibrium with restricted participation on financial markets (as originally presented in Balasko, Cass and Siconolfi [1990]). Our goal is to accommodate a wide range of portfolio constraints while at the same time still permitting (generically) differential analysis of the dependence of financial equilibria on "fundamental" parameters.

Castello-Branco, Marta

TI Central Bank Independence: Issues and Experience. **AU** Swinburne, Mark; Castello-Branco, Marta.

Chadha, Bankim

TI On Interpreting the Random Walk Behavior of Nominal and Real Exchange Rates. **AU** Adams, Charles; Chadha, Bankim.

Chelliah, Raja J.

PD July 1991. **TI** The Growth of Indian Public Debt - Dimensions of the Problem and Corrective Measures. **AA** National Institute of Public Finance and Policy, India. **SR** International Monetary Fund Working Paper: WP/91/72; International Monetary Fund, Washington, DC 20431. **PG** 45. **PR** not available. **JE** O53, H63, H62, E62. **KW** Public Debt. India. Government Spending.

AB This paper traces the causes of the rapid growth of India's public debt, with special reference to internal debt. It then demonstrates that the growth of debt would become unsustainable by the end of the 1990's if the present trends continue. It develops a methodology to iterate the path of growth of debt to discover the sustainable level of the primary deficit. Finally, it suggests concrete measure to bring down the primary deficit.

Chichilinsky, Graciela

PD January 1991. **TI** Existence of Equilibrium in Regular Economies with Incomplete Markets. **AU** Chichilinsky, Graciela; Heal, Geoffrey M. **AA** Columbia University. **SR** Columbia First Boston Series in Money, Economics and Finance Working Paper: FB-91-03; Columbia University, Graduate School of Business, First Boston Series, New York, NY 10027. **PG** 7. **PR** \$5.00 academic and non-profit institution; \$6.00 corporations (add \$1.00 for foreign requests). **JE** G12, D52, C62. **KW** Competitive Equilibrium.

Incomplete Markets. Spot Markets.
AB This paper presents a simple and transparent proof of the existence of an equilibrium in incomplete markets, using properties of strictly regular economies. It also classifies topologically the space of spot prices and asset returns which clear the spot markets.

PD January 1991. **TI** Competitive Equilibrium in Sobolev Spaces with Unbounded Short Sales. **AU** Chichilinsky, Graciela; Heal, Geoffrey M. **AA** Columbia University. **SR** Columbia First Boston Series in Money, Economics and Finance Working Paper: FB-91-02; Columbia University, Graduate School of Business, First Boston Series, New York, NY 10027. **PG** 24. **PR** $5.00 academic and non-profit institution; $6.00 corporations (add $1.00 for foreign requests). **JE** D51, C62. **KW** Competitive Equilibrium. Commodities. Endowments. Preferences.
AB Using results of Chichilinsky [1977] and Chichilinsky and Kalman [1980], we prove existence and Pareto optimality of a competitive equilibrium when commodity spaces are infinite dimensional Sobolev spaces. These are Hilbert spaces which include L(2) as a special case. We give sufficient conditions for existence on individual characteristics, e.g. endowments and preferences. The model includes the possibility of unbounded short sales, and allows general consumption sets. Prices are in the same space as commodities. L(infinity) and the space of continuous functions C(R) are dense subspaces of the commodity space.

PD January 1991. **TI** Necessary and Sufficient Conditions for Pareto Efficiency of Equilibrium in Non-Convex Economies. **AU** Chichilinsky, Graciela; Heal, Geoffrey M. **AA** Columbia University. **SR** Columbia First Boston Series in Money, Economics and Finance Working Paper: FB-91-01; Columbia University, Graduate School of Business, First Boston Series, New York, NY 10027. **PG** 9. **PR** $5.00 academic and non-profit institution; $6.00 corporations (add $1.00 for foreign requests). **JE** D11, D23, D41, C62. **KW** Marginal Cost Pricing. Returns to Scale. Preferences. Consumption.
AB Theorems 1 and 2 give conditions on the preference profiles of a non-convex economy that are necessary and sufficient to ensure that at least one marginal cost pricing equilibrium is Pareto efficient. These conditions are that the preference profile is affinely homothetic and identical, i.e. that all individual preferences in it are affine translations of a given homothetic preference. This condition was shown by Chichilinsky and Heal (1983) to be necessary and sufficient for the completeness and transitivity of community preferences as defined by Scitovsky (1941), Gorman (1953), and Samuelson (1956). It is also equivalent to the condition that with strictly positive consumption vectors the aggregate demand is independent of the distribution of endowments. Theorem 3 gives an additional condition on the economy which is sufficient to ensure that all marginal cost pricing equilibria are Pareto efficient. This condition is on the relationship between preferences and production sets. It amounts to a requirement that the economy be diffeomorphically convex.

PD April 1991. **TI** Actions of Symmetry Groups. **AA** Columbia University. **SR** Columbia Department of Economics Working Paper: 537; Department of Economics, Columbia University, New York, New York 10027. **PG** 7. **PR** $5.00. **JE** C62, D71. **KW** Preferences. Topology. Social Choice.
AB Consider the symmetric group S(k) on k letters, action on the k-fold product of a space M. For a given integer k greater than or equal to 2, we study the existence of maps phi: M(k) to M which are invariant under the group action of S(k) and of some of its subgroups, and satisfy a full range condition. The results differ from the existing literature in that phi need only be of full range and invariant, and in that they depend on the specific properties of each number k.

Chinn, Menzie

TI The Stabilizing Properties of a Nominal GNP Rule in an Open Economy. **AU** Frankel, Jeffrey A.; Chinn, Menzie.

Choi, Jay P.

PD May 1991. **TI** Dynamic R&D Competition under "Hazard Rate" Uncertainty. **AA** Columbia University. **SR** Columbia Department of Economics Working Paper: 549; Department of Economics, Columbia University, New York, New York 10027. **PG** 26. **PR** $5.00. **JE** O32, O33. **KW** Technology. Technological Change.
AB A model of dynamic R&D behavior is presented in which participants in the race have imperfect information about the (true) "hazard rate" of the R&D process. In this model, a firm will be ambivalent about a rival firm's success at an intermediate stage. On the one hand, the probability of winning is reduced since a rival firm is ahead and the technological gap is larger. This effect is always negative. On the other hand, the discovery could be a signal that the project is not as hard after all ("if you can do that, why not me?"), which could shorten the expected time needed for the discovery. This is a positive effect of a rival firm's success, which is not present in existing models and hence has been ignored up to now. According to the relative magnitude of these two opposing effects, a much richer description of real world R&D behavior is obtained. This paper also potentially provides an explanation of the strategic practice of innovation shelving.

Chou, Chien-fu

PD August 1991. **TI** The Crowding-Out Effects of Long Duration of Patents. **AU** Chou, Chien-fu; Shy, Oz. **AA** Chou: State University of New York at Albany. Shy: Tel Aviv University. **SR** Tel Aviv Sackler Institute of Economic Studies Working Paper: 8-91; Department of Economics, Tel Aviv University, Ramat Aviv 69978, Tel Aviv, ISRAEL. **PG** 15. **PR** no charge. **JE** O31, G31, L11. **KW** Innovation. Investment. Patents. Product Development.
AB In this paper we demonstrate the effects of long duration of patents on the investment in new product development. We construct an overlapping generations model of saving, investment, and product innovation and show that long duration of patents result in a high aggregate value of monopoly firms that compete on the youngs' saving with the investment in new product development. We analyze the crowding-out effects of long duration of patents and their implications on individuals' welfare under different patent regimes.

Choudhry, Nurun N.

PD April 1991. **TI** Collection Lags, Fiscal Revenue and Inflationary Financing: Empirical Evidence and Analysis. **AA** International Monetary Fund. **SR** International Monetary Fund Working Paper: WP/91/41; International Monetary Fund, Washington, DC 20431. **PG** 17. **PR** not

available. **JE** E62, E63, H61. **KW** Inflation. Government Revenue. Taxes. Subsidies.
AB The paper provides empirical evidence on collection lags in major categories of government revenue and analyzes the estimated revenue-eroding effects of inflation within the standard model of inflationary finance. The evidence indicates a wide variation in collection lags among the categories of revenues. The estimated erosion of real fiscal revenue, although varied in the sample countries, appears to have substantially offset gains from the inflation tax, thereby severely restricting the use of this form of taxation in generating resources.

Christopeit, Norbert

PD August 1989. **TI** Some Comments on a Simple Nonlinear Filter. **AA** University of Bonn. **SR** Universitat Bonn Sonderforschungsbereich 303 - Discussion Paper: B-136; Sonderforschungsbereich 303 an der Universitat Bonn Adenauerallee 24-42, D5300 Bonn 1, GERMANY. **PG** 8. **PR** no charge. **JE** C11. **KW** Random Processes. Brownian Motion. Differential Equations.
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))dw(t), for t greater than or equal to 0.

Clarida, Richard H.

PD May 1991. **TI** Aggregate Stochastic Implications of the Life Cycle Hypothesis. **AA** Columbia University and National Bureau of Economic Research. **SR** Columbia Department of Economics Working Paper: 544; Department of Economics, Columbia University, New York, New York 10027. **PG** 19. **PR** $5.00. **JE** D91, E21, C43. **KW** Consumption. Life Cycle Model. Aggregation.
AB This paper sets forth some key aggregate stochastic implications of the Modigliani-Brumberg [1980] life cycle hypothesis, and explores the extent to which a properly aggregated life cycle model can help to explain the first and second moment properties of changes in per capita consumption. The principal finding of the paper, which to my knowledge is new, is that smooth per capita consumption in the presence of permanent shocks to per capita labor income is exactly the outcome one should expect from a properly aggregated life cycle model in which saving for retirement, as well as for consumption smoothing, is a motive for asset accumulation.

PD May 1991. **TI** Entry, Dumping, and Shakeout. **AA** Columbia University and National Bureau of Economic Research. **SR** Columbia Department of Economics Working Paper: 546; Department of Economics, Columbia University, New York, New York 10027. **PG** 45. **PR** $5.00. **JE** F41, F14, F11. **KW** International Trade. Open Economy. Free Trade. Exports.
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. As in Jovanovic (1982), I assume that firms in one of the two countries can only acquire knowledge about the technology for producing one of the goods by actually producing that good. Because all firms are ex ante identical in one of the countries, and ex post efficient firms earn positive rents in equilibrium, competition for these rents can result in entry to the point that the equilibrium price is driven below average cost.

PD May 1991. **TI** Co-Integration, Aggregate Consumption, and the Demand for Imports: A Structural Econometric Model. **AA** Columbia University and National Bureau of Economic Research. **SR** Columbia Department of Economics Working Paper: 545; Department of Economics, Columbia University, New York, New York 10027. **PG** 25. **PR** $5.00. **JE** E21, D91, E13. **KW** Consumption. Imports. Permanent Income Hypothesis.
AB This paper uses a two-good version of Hall's (1978) representative agent, permanent income model to derive a structural econometric model of the demand for imported consumer goods. With strongly separable, isoelastic preferences, the log of the demand for foreign goods is shown to be linear in the log of the relative price of imports, the log of the demand for domestic goods, and the log of an unobservable shock to tastes. The permanent income hypothesis implies that the demand for domestic non-durable goods and the demand for foreign non-durable goods share a common stochastic trend (Stock and Watson (1988)) and that this trend may be identified with the marginal utility of wealth. The data do not reject the null hypothesis that log imports of non-durables and log consumption of domestic non-durables each have a unit root.

Claude, Henry

PD April 1991. **TI** Decision Centralisee Simple ou Marchandage Decentralise en Information Imparfaite. **AA** Universite de Lausanne. **SR** Universite de Lausanne Cahiers de Recherches Economiques: 9106; Departement d'Econometrie et d'Economie Politique, Universite de Lausanne, BFSH - Dorigny, CH-1015 Lausanne, SWITZERLAND. **PG** 34. **PR** no charge. **JE** H41, D82, C78. **KW** Coase. Bargaining. Imperfect Information. Public Goods.
AB In the model considered, there are two agents who consume private goods and one public good; they disagree on the optimal level at which the public good should be made available. This level can be chosen either by a public authority, maximizing an index of efficiency, or by one of the two agents involved. With complete information accessible at no cost to all parties, and in the absence of any other transaction cost. Coase's theorem holds: as far as the efficiency is concerned, it is irrelevant whether the choice is made by the public authority or by any of the two agents. When the agents have private information, the situation is different, as there are rents attached to the revelation of such information. Then, if the degrees of dispersion characterizing the private information held respectively by the two agents are not very different, it is more efficient to have the public authority making the choice. If they are rather different, it is more efficient to have the agent with the larger degree of dispersion making the choice, coming as the outcome of a bargaining process led by the other agent. Paper in French.

Clements, Michael P.

PD July 1991. **TI** Testing Structural Hypotheses by Encompassing: U.S. Wages and Prices is the Mark-Up Pricing Hypothesis Dead? **AA** University of Oxford. **SR** Oxford Applied Economics Discussion Paper: 114; Institute of Economics and Statistics, St. Cross Building, Manor Road, Oxford OX1 3UL, ENGLAND. **PG** 39. **PR** not available. **JE** C12, C22, C52. **KW** Hypothesis Testing. Time Series. Cointegration.

AB This paper contends that highly parameterized VAR-type models in differences may not be an appropriate vehicle within which to test economic hypotheses. Over-parameterization may reduce the power of tests of exclusion restrictions, and modeling in differences will be inappropriate for economic time series which follow stochastic trends but are cointegrated. These notions are illustrated for the modeling of the U.S. inflation process. A parsimonious error correction model which accords a long-run role to labor cost in the determination of prices outperforms on statistical grounds a highly parameterized model in differences which suggests labor cost is unimportant.

Cnossen, Sijbren

PD July 1991. **TI** Key Questions in Considering a Value-Added Tax for Central and Eastern European Countries. **AA** Erasmus University and International Monetary Fund. **SR** International Monetary Fund Working Paper: WP/91/69; International Monetary Fund, Washington, DC 20431. **PG** 45. **PR** not available. **JE** H21, H23, E62, O11. **KW** Europe. Taxes. Prices. Economic Growth.

AB In the course of introducing a market-oriented tax system, most Central and Eastern European Countries are actively considering the merits of a value-added tax (VAT). This paper examines a wide range of social, economic, structural, and administrative issues that are pertinent to the introduction of a VAT. These issues have regard to the burden distribution of the VAT, its effect on the price level and economic growth, as well as the coverage of the tax, the definition of the base, and the choice of the rate structure. Various legal and administrative aspects are also reviewed. The paper draws on the experience with value-added taxation of the member states of the European Community (EC) and other countries that belong to the Organisation for Economic Cooperation and Development (OECD).

Coate, Malcom B.

TI Are Judges Smarter than Economists? Sunk Cost, the Threat of Entry, and the Competitive Process. **AU** Kleit, Andrew N.; Coate, Malcom B.

Cole, Harold L.

PD June 1991. **TI** Social Norms, Savings Behavior, and Growth. **AU** Cole, Harold L.; Mailath, George J.; Postlewaite, Andrew. **AA** Mailath and Postlewaite: University of Pennsylvania. Cole: 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: 91-14; University of Pennsylvania, Center for Analytic Research in Economics and the Social Sciences, McNeil Building, 3718 Locust Walk, Philadelphia, PA 19104-6297. **PG** 36. **PR** no charge. **JE** O41, D92. **KW** Growth Model. Intertemporal Model. Growth Rates.

AB This paper argues that differences in growth rates across countries can be explained without recourse to differences in underlying preferences, technologies, or endowments. Different social organizations lead to different reduced form preferences, which lead to different growth rates. We focus on a simple multi-generational society in which at each period there is a continuum of each of two different types of people who are voluntarily matched into pairs. Each pair will produce two offspring, one of each type. Agents of the older generation die at the end of the period. Besides the matching decision, agents make standard economic decisions: what to produce and/or what to invest. There are multiple equilibria in this model, corresponding to different matching rules.

Cooper, David J.

PD February 1991. **TI** Manipulating Futures Markets and Commodity Prices by Corner and Squeeze. **AU** Cooper, David J.; Donaldson, R. Glen. **AA** Princeton University. **SR** Princeton Financial Research Center Memorandum: 122; Financial Research Center, Department of Economics, Princeton University, Princeton, NJ 08544. **PG** 28. **PR** $3.00 U.S.; $6.00 foreign. **JE** G13. **KW** Futures Markets. Prices. Commodity Pricing. Commodities.

AB We investigate equilibrium trading strategies, and the price dynamics these strategies produce, in markets where prices can be manipulated by corner and squeeze. Price paths produced by our model mimic observed spot and futures prices for cornerable commodities and explain the volatility of certain prices even when no manipulations occur. Our model also generates occasional apparent price bubbles and accounts for the existence of normal backwardation in futures markets even when agents are risk neutral. Finally, we use the model to evaluate various policies aimed at preventing price manipulation by corner and squeeze.

Corker, Robert J.

PD March 1991. **TI** Price Pressure Gaps: An Application of P* Using Korean Data. **AU** Corker, Robert J.; Haas, Richard D. **AA** International Monetary Fund. **SR** International Monetary Fund Working Paper: WP/91/26; International Monetary Fund, Washington, DC 20431. **PG** 16. **PR** not available. **JE** E31, E44, E41. **KW** Inflation. Money Demand. Financial Markets.

AB This paper presents estimates of a price pressure indicator for Korea. It does this by constructing measures of how much M2 velocity and output differ from their long-term values. This, in turn, involves estimating a demand for money function in an error correction framework in which interest rates in the unorganized money market help to account for the effects of ongoing financial liberalization. An equation explaining the Korean inflation rate is identified in which both the monetary variable -- the velocity gap -- and the real variable -- the output gap -- play important roles.

Cornelius, Peter K.

PD March 1991. **TI** Monetary Policy and the Price Behavior in Emerging Stock Markets. **AA** International Monetary Fund. **SR** International Monetary Fund Working Paper: WP/91/27; International Monetary Fund, Washington, DC 20431. **PG** 19. **PR** not available. **JE** G15, G14, E51. **KW** Stock Market. Efficient Markets. Money Supply.

AB This paper examines whether the six largest and most active emerging stock markets are informationally efficient with respect to changes in the money supply. To investigate if stock prices fully reflect the information contained in money supply changes two different econometric techniques are employed. First, direct Granger-causality tests are used, which focus on the short-run relationship between stock prices and money. Second, the long-run behavior of the two variables is studied by means of cointegration tests. The results suggest that at least for two markets profitable trading rules can be developed to earn consistently higher-than-normal rates of return.

Corneo, Giacomo G.

PD April 1991. **TI** Discrimination as a Solution to the Productivity/Full Employment Dilemma in a Soviet-Type Economy. **AA** University of Bonn. **SR** Universitat Bonn Sonderforschungsbereich 303 - Discussion Paper: A-335; Sonderforschungsbereich 303 an der Universitat Bonn, Adenauerallee 24-42, D-5300 Bonn 1, GERMANY. **PG** 46. **PR** no charge. **JE** P23, P21, J41. **KW** Centralized Planning. Labor Markets. Efficiency Wages. Socialism. Unemployment.

AB This paper provides an application of the shirking model of the efficiency wage theory to the case of soviet-type economies (STEs). In that economic system unemployment cannot be utilized as a "worker discipline device." Thus, a simple overlapping generation model is presented, in which managers can elicit workers' effort through discrimination and promotion inside the firms. The role of various factors on this incentive mechanism is investigated. In this respect, the superior efficiency of a reformed over a traditional STE is established.

Cottarelli, Carlo

PD June 1991. **TI** Forced Savings and Repressed Inflation in the Soviet Union: Some Empirical Results. **AU** Cottarelli, Carlo; Blejer, Mario I. **AA** International Monetary Fund. **SR** International Monetary Fund Working Paper: WP/91/55; International Monetary Fund, Washington, DC 20431. **PG** 44. **PR** not available. **JE** D12, E21, E41, P22. **KW** Consumption. Money Demand. Soviet Union. Wealth Distribution.

AB In countries such as the Soviet Union, where wealth is mainly stored in monetary assets, the behavior of the money to income ratio is a poor indicator of the growth of undesired monetary balances (monetary overhang). In those countries a monetary overhang is primarily a wealth overhang, which has to be analyzed by evaluating deviations of actual from desired wealth holdings; this requires an empirical analysis of consumption and saving decisions. In this paper, we present estimates of a consumption function for the Soviet Union, from which an evaluation of the monetary overhang existing at the end of 1990 is derived.

Cox, James C.

PD April 1991. **TI** Theory and Misbehavior in First Price Auctions: Comment. **AU** Cox, James C.; Smith, Vernon L.; Walker, James M. **AA** Cox and Smith: University of Arizona. Walker: Indiana University. **SR** University of Arizona Economics Working Paper: 91-4; Department of Economics, Bldg #23, University of Arizona, Tucson, AZ 85721. **PG** 36. **PR** $2 Canada and U.S.; $3 Overseas by air. **JE** D44, C91, D81. **KW** Experimental Economics. Rewards. Risk Aversion. Auctions. Bidding.

AB We reply to Harrison's and to Kagel's and Roth's critique of our work in auction theory and behavior. Harrison's metrics require cardinality to justify his statement that foregone utility is "too small"; as heuristics to aid experimental design, we show why his measures are not informative. Further, our experiments with variable rewards and opportunity costs show that, contrary to Harrison's argument, subjects do not become more risk neutral with increased reward. Kagel's and Roth's critique contains many errors based primarily on their misunderstanding of various risk averse models of Nash equilibrium bidding behavior. Thus, they report data claiming to support, but which in fact are contrary, to Harrison. They also report new tests which claim to falsify CRRAM, but because of their misinterpretations, are not inconsistent with CRRAM.

Crabbe, Leland

PD June 1991. **TI** Corporate Medium-Term Notes. **AA** Board of Governors of the Federal Reserve System. **SR** Board of Governors of the Federal Reserve System Finance and Economics Discussion Series: 162; C/O Steven A. Sharpe, Mail Stop 89, Federal Reserve Board, Washington, DC 20551. **PG** 31. **PR** no charge. **JE** G32, M21. **KW** Corporate Finance. Borrowing. Corporate Debt. Financing Policy.

AB Corporate medium-term notes (MTN) are highly flexible debt instruments that are sold primarily through agents on a best efforts basis. The features and maturities of MTNs may be structured to match fund the assets of a borrower or to satisfy the specific funding needs of an investor. Over the past decade, the MTN market has evolved from a relatively obscure niche market dominated by the auto finance companies into a major funding vehicle for U.S. corporations with investment-grade credit rating. In 1990, borrowing in the MTN market accounted for 38 percent of the intermediate and long-term investment-grade straight debt issued by U.S. corporations in the domestic market. The $98 billion in MTNs outstanding at year-end 1990 accounted for 11 percent of corporate notes and bonds outstanding in the domestic market.

Craig, Richard Sean

PD August 1991. **TI** EMS Interest Rate Differentials and Fiscal Policy: A Model with an Empirical Application to Italy. **AA** Board of Governors of the Federal Reserve System. **SR** Board of Governors of the Federal Reserve System International Finance Discussion Papers: 405; Division of International Finance, Board of Governors of the Federal Reserve System, Washington, DC 20551. **PG** 29. **PR** no charge. **JE** F36, F33, E42. **KW** European Monetary System. Fiscal Policy. Italy. Interest Rate. Exchange Rate.

AB This paper develops a model showing how EMS interest rate differentials are influenced by fiscal policy. For countries like Italy, with large budget deficits, the commitment to a stable EMS exchange rate can entail costly fiscal adjustment. If the government believes these costs to be excessive, it may choose to adopt a more inflationary monetary policy and realign periodically. It is this possibility, that the policy of targeting the stable exchange rate will be abandoned in favor of one with periodic EMS realignments, that contributes to the interest differential. Estimation of the model indicates that fiscal variables explain part of the Italian-German interest differential, and cointegration tests reveal that this relationship holds over the long-run. These results imply that the Italian-German interest differential is likely to persist in the second stage of European Monetary Union (EMU) if Italy fails to reduce its budget deficit, providing support for the view that fiscal convergence is a necessary element of EMU.

Craine, Roger

PD July 1991. **TI** Rational Bubbles: A Test. **AA** University of California at Berkeley. **SR** University of California at Berkeley Working Paper in Economics: 91-170;

IBER 156 Barrows Hall, University of California at Berkeley, Berkeley, CA 94720. **PG** 32. **PR** $3.50 plus applicable sales tax. **JE** G12, G14. **KW** Efficient Markets. Bubbles. Stock Market.

AB This paper presents a no rational bubble restriction for equity markets that is extremely robust with respect to the specification of the stock's expected return process. If the discount factor and the dividend growth rate are stationary stochastic processes, then the fundamental value-dividend ratio is a stationary stochastic process. Actual aggregate equity price index-dividend ratios have a large autoregressive root. Monte Carlo results presented here make it seem very unlikely that the traditional expected present value model driven by log-normally distributed dividend growth and discount factors can explain the data.

Croushore, Dean

PD March 1991. **TI** The Short-Run Costs of Disinflation. **AA** Federal Reserve Bank of Philadelphia. **SR** Federal Reserve Bank of Philadelphia Research Working Paper: 91-8; Working Papers, Department of Research, Federal Reserve Bank of Philadelphia, 10 Independence Mall, Philadelphia, PA 19106. **PG** 43. **PR** no charge except overseas airmail, $2.00; checks/money orders in U.S. funds payable to Federal Reserve Bank of Philadelphia. **JE** E31, E37, E52. **KW** Inflation. Monetary Policy. Macroeconomic Models. Simulation Model.

AB Should the Federal Reserve undertake actions to permanently reduce the inflation rate from its current level of about 5 percent? Only if the benefits to reducing inflation exceed the costs of getting there. This paper tries to provide some evidence on the costs of disinflation by forecasting the path of disinflation using a variety of small macroeconomic forecasting models. I examine a New Classical model that has features similar to the model of Barro and Rush (1980), a Monetarist model based on the work of Tatom (1983), a Keynesian model like that of Freidman (1977), and a hybrid model called P-Star.

Cumby, Robert

PD March 1991. **TI** International Asset Allocation with Time Varying Risk: An Analysis and Implementation. **AU** Cumby, Robert; Figlewski, Stephen; Hasbrouck, Joel. **AA** New York University. **SR** New York University Salomon Brothers Center Working Paper: S-91-22; 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** 42. **PR** $5.00. **JE** G15, F21, G11. **KW** Portfolio Choice. International Markets. International Investment.

AB This paper reports on an extensive investigation of the problem of optimally allocating funds in an investment portfolio among major classes of U.S. and Japanese assets. The major innovation that we explored is to allow the asset risk parameters to vary over time and to construct an econometric model of this time variation.

Dalum, B.

TI Intra-Industry Trade in Denmark and Ireland: A Comparison. **AU** Sorensen, Nils K.; Dalum, B.; Madsen, Strojer E.; Nielsen, Ulff-Moller J.

Danthine, Jean-Pierre

PD April 1991. **TI** Consequences Macroeconomiques du Vieillissement Demographique: Lecons d'un Modele Adapte au cas de l'Economie Suisse. **AU** Danthine, Jean-Pierre; Surchat, Marc. **AA** Danthine: Universite de Lausanne and CEPR. Surchat: Universite de Lausanne. **SR** Universite de Lausanne Cahiers de Recherches Economiques: 9103; Departement d'Econometrie et d'Economie Politique, Universite de Lausanne, BFSH - Dorigny, CH-1015 Lausanne, SWITZERLAND. **PG** 23. **PR** no charge. **JE** D91, J11, H55, E21, E27. **KW** Aging. Life Cycle Hypothesis. Saving. Social Security. Demographics.

AB This paper sets up a computable, overlapping generations model based on the life cycle hypothesis and uses it to describe the economic implications of an aging population. The demographic parameters are calibrated to approximate the main features of the Swiss economy, i.e., a birth rate below the replacement level, an increase in the share of the retired in the overall population and significant immigration flows. We detail the effect of each of these factors under no and full capital mobility. Our main message is a warning that the direct impact of demographic variables on social security contributions and savings may not be indicative of their overall effects on income and price variables. Taking account of the changes they imply in the capital and labor markets, we do not find support for the usual alarmist reaction to the predicted demographic changes. Paper in French.

Davis, E. P.

PD August, 1991. **TI** Corporate Finance in the Euromarkets and the Economics of Intermediation. **AU** Davis, E. P.; Mayer, Colin P. **AA** Davis: Bank of England. Mayer: City University Business School, London. **SR** CEPR Discussion Paper: 570; Centre for Economic Policy Research, 6 Duke of York Street, London SW1Y 6LA, United Kingdom. **PG** 39. **PR** Pounds 3.00 or $5.00. **JE** G32. **KW** Eurobonds. Syndicated Bank Credit. Theories of Financial Intermediation.

AB This paper examines bond and syndicated bank finance in the Euromarkets. It uses a comprehensive data bank on Euromarkets to evaluate alternative theories of financial intermediation. A model is estimated that provides a good description of firms' choice of finance. The paper concludes that Euromarkets are best described by control ('transactions banking') rather than commitment ('relationship banking'). Bank and bond markets are not perfect substitutes, however, even for large companies: the financing of high risk projects requires the involvement of banks. Banks therefore retain a central function and the operation of bank syndicates is crucial to the financing of large corporations.

De Gregorio, Jose

PD January 1991. **TI** Welfare Costs of Inflation, Seigniorage, and Financial Innovation. **AA** International Monetary Fund. **SR** International Monetary Fund Working Paper: WP/91/1; International Monetary Fund, Washington, DC 20431. **PG** 28. **PR** not available. **JE** E31, F41, E52. **KW** Inflation. Monetary Policy. Financial Markets.

AB This paper examines the welfare effects of mitigating the costs of inflation. In a simple model, where money reduces transaction costs, a fall in the costs of inflation is equivalent to financial innovation. This can be caused by paying interest on deposits, indexing money, or "dollarizing." Results indicate that financial innovation raises welfare in low inflation economies while reducing it in high inflation economies, due to the offsetting indirect effect of higher inflation to finance the budget.

TI The Demand for Money in Developing Countries: Assessing the Role of Financial Innovation. **AU** Arrau, Patricio; De Gregorio, Jose; Reinhart, Carmen M.; Wickham, Peter.

PD July 1991. **TI** Economic Growth in Latin America. **AA** International Monetary Fund. **SR** International Monetary Fund Working Paper: WP/91/71; International Monetary Fund, Washington, DC 20431. **PG** 46. **PR** not available. **JE** O54, O47, O41. **KW** Latin America. Growth Model. Productivity.

AB This paper studies growth determinants in 12 Latin American countries during the period 1950-85. In a simple growth accounting framework, the share of labor in income is found to be lower in the sample group than in developed countries, while factor productivity growth accounts for a larger proportion of growth in the fastest growing countries in the sample. Using panel data, macroeconomic stability is found to play, in addition to investment (physical and human), a crucial role in growth. To a lesser extent, growth is negatively correlated with government consumption and political instability. The terms of trade appear to have no significant effect on growth.

De Rosa, Dean A.

PD May 1991. **TI** Protection and the Own-Funds Window in Tanzania; An Analytical Framework and Estimates of the Effects of trade liberalization. **AA** International Monetary Fund. **SR** International Monetary Fund Working Paper: WP/91/52; International Monetary Fund, Washington, DC 20431. **PG** 17. **PR** not available. **JE** F13, F31, O55. **KW** Imports. Trade Policy. Exports. Smuggling.

AB This paper presents a simple partial equilibrium framework for considering the economic implications of administered protection in Tanzania, against the background of the country's parallel exchange market and the establishment of the own-funds and open general license (OGL) facilities for authorizing imports. It also presents estimates of the range of possible adjustment in the real exchange rate and trade flows following from a unification of the highly-fragmented import licensing system, coupled with sufficient liberalization of the OGL facility to eliminate own-funded imports and the incentive to export smuggling.

Delipalla, Sofia

PD March 1991. **TI** The Comparison between Ad Valorem and Specific Taxation under Imperfect Competition. **AU** Delipalla, Sofia; Keen, Michael. **AA** Delipalla: University of Essex. Keen: University of Essex and Queen's University. **SR** Queen's Institute for Economic Research Discussion Paper: 821; Department of Economics, Queen's University, Kingston, Ontario, CANADA K7L 3N6. **PG** 30. **PR** $3.00 Canada; $3.00 U.S.; $3.50 foreign. **JE** H25, H21, L13, D43. **KW** Imperfect Competition. Taxes. Oligopoly. Business Taxes. Taxation.

AB This paper compares ad valorem and specific taxation in two models of oligopoly, with and without free entry. Predominantly ad valorem taxation implies a relatively low consumer price, high tax revenue and (when entry is precluded) low profits. Ad valorem taxation dominates specific from the welfare perspective: the set of circumstances under which (with free entry) specific taxation raises welfare is a strict subset of that in which ad valorem taxation is welfare-improving, and in both models the maximization of consumer welfare subject to a binding revenue constraint requires maximum reliance on ad valorem taxation.

Dellas, Harris

PD June 1991. **TI** Monetary Policy, Risk Premia and Interest Rates. **AU** Dellas, Harris; Salyer, Kevin D. **AA** Dellas: University of Maryland. Salyer: University of California, Davis. **SR** University of California at Davis Economics Department Working Paper: 387; Department of Economics, University of California at Davis, Davis, CA 95616-8578. **PG** 14. **PR** not available. **JE** E43, E52, G12, E21. **KW** Monetary Policy. Interest Rates. Risk Premiums. Asset Pricing. Consumption.

AB According to the consumption based capital asset pricing model (CCAPM), the risk premium on any asset depends on the covariance of that asset's return with consumption. Systematic monetary policy affects, through unanticipated inflation, both the return on nominal assets (such as public debt) and aggregate consumption and hence it influences risk premia and real interest rates. We show that policy contributes positively to risk premia (so it raises real interest rates) when it systematically reacts to demand shocks but it has an ambiguous effect with supply shocks. Given the level of outstanding public debt in the U.S., this aspect of stabilization policy can cost the Treasury several billion dollars annually. Moreover, our analysis offers an example in which stabilization policy also affects the long-run rate of economic growth through its effect on long-term real interest rates.

Demirguc-Kunt, Asli

PD May 1991. **TI** Interest Rates, Official Lending, and the Debt Crisis: A Reassessment. **AU** Demirguc-Kunt, Asli; Detragiache, Enrica. **AA** Demirguc-Kunt: World Bank. Detragiache: Johns Hopkins University. **SR** Johns Hopkins Department of Economics Working Paper: 266; Department of Economics, Johns Hopkins University, Baltimore, Maryland 21218. **PG** 27. **PR** no charge. **JE** F34, F41. **KW** Interest Rates. Developing Countries. External Debt.

AB The paper examines the interest rates paid on their external debt by a sample of highly indebted LDCs in 1973-88. In contrast with previous studies, the data used reflects the average interest rates on all long-term obligations. Sizable cross-country differences are documented. In particular, countries often praised for not rescheduling in the '80s, such as Indonesia and Turkey, paid rates substantially below LIBOR. Differences in risk premia, reflecting the market's assessment of default risk, explain some of the variation. However, an important component has also been exposure to official creditors: A large share of debt from official creditors has meant a reduced burden of interest payments, since these loans carried below market rates. Some evidence suggesting that official creditors are not senior to private lenders is also found. Finally, debt at floating interest rates has not been more expensive than debt at fixed rates on average.

Demougin, Dominique M.

PD May 1991. **TI** Contractual Design with Correlated Information under Limited Liability. **AU** Demougin, Dominique M.; Garvie, Devon A. **AA** Demougin: University of Toronto. Garvie: Queen's University. **SR** Queen's Institute for Economic Research Discussion Paper: 815; Department of Economics, Queen's University, Kingston, Ontario, CANADA K7L 3N6. **PG** 29. **PR** $3.00 Canada; $3.00 U.S.; $3.50 foreign. **JE** C78, D82, C70. **KW** Principal Agent Model. Asymmetric Information. Contractual Design. Limited Liability. Correlated Signals.

AB We examine contractual design in a principal-agent model under two forms of limited liability: non-negative constraints on the transfer payments to and the profits of the agent. We show that when limited liability is a binding constraint the principal cannot implement the first-best solution and the agent earns rents from private information. Limited liability is a binding constraint in the non-negative transfers model only when a signal is insufficiently responsive to type (inelastic). Further, as the production rule and profits are continuous in the type elasticity of the signal density function, the level of inefficiency is less than that which is obtained with no signal. If a signal is sufficiently responsive to type (elastic) in this environment, then the principal can implement the first-best allocation and the value of the agent's private information is zero.

Desai, Padma

PD June 1991. **TI** Grain Yields under Gorbachev Weather, Variability and Trend. **AA** Columbia University. **SR** Columbia Department of Economics Working Paper: 550; Department of Economics, Columbia University, New York, New York 10027. **PG** 16. **PR** $5.00. **JE** O53, Q11. **KW** Agriculture. Soviet Union.

AB The main argument of this paper is that, despite widespread impressions to the contrary, Soviet grain performance in the Gorbachev years has not deteriorated. In fact, it is marked by steady gains in yield and output, and smaller variability in both. Its principal methodological contribution is that appropriate weather-yield models are developed for removing the impact of weather variation from yields and outputs so that the influence of policy and systemic factors can be assessed.

Dessi, Roberta

PD March 1991. **TI** Income, Occupation, and Education in China. **AA** University of Cambridge. **SR** University of Cambridge DAE Working Paper: 9107; 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** I21, J24, O53, O15. **KW** China. Education. Income. Human Capital. Developing Countries.

AB This study investigates the relationship between individual incomes, occupational status, and education for urban and rural Chinese households, using survey data from 1987. We also examine how educational attainment varies with sector, demographic and geographical characteristics. Our findings on the size and pattern of the returns to education differ from those in comparable studies for most other developing countries. We consider some possible explanations for this result.

Detragiache, Enrica

TI Interest Rates, Official Lending, and the Debt Crisis: A Reassessment. **AU** Demirguc-Kunt, Asli; Detragiache, Enrica.

Devarajan, Shantayanan

PD July, 1991. **TI** Do the Benefits of Exchange Rates Outweigh Their Cost? The Franc Zone in Africa. **AU** Devarajan, Shantayanan; Rodrik, Dani. **AA** Devarajan: Department of Economics, Harvard University. Rodrik: Department of Economics, Harvard University. **SR** CEPR Discussion Paper: 561; Centre for Economic Policy Research, 6 Duke of York Street, London SW1Y 6LA, United Kingdom. **PG** 36. **PR** Pounds 3.00 or $5.00. **JE** F31, 011, 055. **KW** Exchange Rates. CFA Zone.

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. The predominance of a few agricultural products and natural resources in their exports has meant that CFA member countries have suffered frequent shocks in their terms of trade. A flexible exchange rate might have alleviated the cost of these external shocks. On the other hand, CFA member countries have managed to maintain lower inflation levels than their neighbours. 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. None the less, our highly stylized calculations suggest that fixed exchange rates have been, on the whole, a bad bargain for the CFA member countries. Under 'reasonable' output-inflation trade offs, these countries would have been better off having the flexibility to adjust to external shocks.

Devereux, Michael P.

PD April 1991. **TI** Corporation Tax Asymmetries and Investment: Evidence from U.K. Panel Data. **AU** Devereux, Michael P.; Keen, Michael; Schiantarelli, Fabio. **AA** Devereux: University of Keele and Institute for Fiscal Studies. Keen: University of Essex, Queen's University and Institute for Fiscal Studies. Schiantarelli: Boston University and Institute for Fiscal Studies. **SR** Queen's Institute for Economic Research Discussion Paper: 820; Department of Economics, Queen's University, Kingston, Ontario, CANADA K7L 3N6. **PG** 36. **PR** $3.00 Canada; $3.00 U.S.; $3.50 foreign. **JE** H25, G31, E22. **KW** Investment. Corporate Taxes. Investment Policy.

AB Theoretical work has emphasized the potentially powerful impact of corporation tax asymmetries on investment behavior. Empirical work has been confined, however, to the essentially descriptive task of measuring implied effective tax rates. This paper uses panel data from 597 U.K. companies for 1973-1986 to address directly the central behavioral issue: are tax asymmetries important to understanding observed investment behavior? An optimizing investment model is developed and estimated both as an Euler equation in which the cost of capital appears and as a Q equation. Asymmetries are shown to generate considerable variation in firms' effective tax positions. Nevertheless, their careful modeling does not noticeably improve the empirical performance of these equations. Possible explanations of this puzzle are discussed.

PD April 1991. **TI** Corporation Tax Asymmetries and Investment: Evidence from U.K. Panel Data. **AU** Devereux,

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Michael P.; Keen, Michael; Schiantarelli, Fabio. **AA** Devereux: University of Keele and Institute for Fiscal Studies. Keen: University of Essex, Queens University, and Institute for Fiscal Studies. Schiantarelli: Boston University and Institute for Fiscal Studies. **SR** Institute for Fiscal Studies (IFS) Working Paper: W91/6; Institute for Fiscal Studies, 7 Ridgmount Street, London WC1E 7AE, ENGLAND. **PG** 40. **PR** 3 pounds. **JE** D21, E22, H25, G31. **KW** Investment. Business Taxes. Taxes.
AB Theoretical work has emphasized the potentially powerful impact of corporation tax asymmetries on investment behavior. Empirical work has been confined, however, to the essentially descriptive task of measuring implied effective tax rates. This paper uses panel data from 597 U.K. companies for 1973-1986 to address directly the central behavioral issue: are tax asymmetries important to understanding observed investment behavior? An optimizing investment model is developed and estimated both as an Euler equation in which the cost of capital appears and as a Q equation. Asymmetries are shown to generate considerable variation in firms' effective tax positions. Nevertheless, their careful modeling does not noticeably improve the empirical performance of these equations. Possible explanations of this puzzle are discussed.

Dewe, Philip
TI The Impact of Employee Share Ownership on Worker Attitudes, A Longitudinal Case Study. **AU** Dunn, Stephen; Richardson, Ray; Dewe, Philip.

Deza, Michel
PD January 1991. **TI** The Cut Cone: Simplicial Faces and Variety of Realizations. **AU** Deza, Michel; Laurent, Monique. **AA** Deza: University of Paris VII. Laurent: University of Bonn and University of Paris, Dauphine. **SR** Universitat Bonn Sonderforschungsbereich 303 - Discussion Paper: 90671-OR; Sonderforschungsbereich 303 an der Universitat Bonn, Adenauerallee 24-42, D-5300 Bonn 1, GERMANY. **PG** 55. **PR** no charge. **JE** C60. **KW** Graph Theory. Cut Cone.
AB The cut cone C(n) is the cone generated by all cuts of the complete graph on n nodes. We survey results related to the variety of realizations of points of the cone C(n): simplicial faces of C(n), linear dependencies on the cuts, realizations of a "rich" point of C(n): 2tI(n) = (2t, 2t,...,2t), and full treatment for small n.

Dhrymes, Phoebus
PD June 1991. **TI** The Structure of Production Technology: Productivity and Aggregation Effects. **AA** Columbia University. **SR** Columbia Department of Economics Working Paper: 551; Department of Economics, Columbia University, New York, New York 10027. **PG** 40. **PR** $5.00. **JE** D24, L60. **KW** Manufacturing. Production. Scale Economies.
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 first replicates the approach of the earlier paper; the results are basically of the same genre, and for that reason are not reported herein. Second, it examines the extent to which increasing returns to scale characterize production at the two digit level; it is established that returns to scales at the mean, in the case of the Translog production functions are almost identical to those obtained with the CD functions.

Dinopoulous, Elias
TI Fiscal Constraints on Market-Oriented Reform in a Socialist Economy. **AU** Lane, Timothy D.; Dinopoulous, Elias.

Disney, Richard
PD April 1991. **TI** Occupational and Industrial Earnings over Time: The Use of Pooled Cross-Section Data. **AU** Disney, Richard; Whitehouse, Edward. **AA** Disney: University of Kent and Institute for Fiscal Studies. Whitehouse: Institute for Fiscal Studies. **SR** Institute for Fiscal Studies (IFS) Working Paper: W91/7; Institute for Fiscal Studies, 7 Ridgmount Street, London WC1E 7AE, ENGLAND. **PG** 32. **PR** 3 pounds. **JE** J31. **KW** Wage Structure. Wage Profiles. Wages.
AB Measurement of individual life cycle earnings profiles are important in the study of pensions. This study uses a combination of published historical series and regression analysis of pooled Family Expenditure Survey data in order to construct synthetic cohort profiles of earnings for a variety of industrial and occupational groups. The analysis permits decomposition of trends in earnings over time into age-earnings effects, economy-wide productivity effects, historic movements in inter-industry and inter-occupational differentials and shifts in earnings profiles attributable to exogenous events.

Dolado, Juan
PD July 1991. **TI** Estimating Intertemporal Quadratic Adjustment Cost Models with Integrated Series. **AU** Dolado, Juan; Galbraith, John W.; Banerjee, Anindya. **AA** Dolado: Bank of Spain. Galbraith: McGill University. Banerjee: Wadham College and Institute of Economics and Statistics. **SR** Oxford Applied Economics Discussion Paper: 111; Institute of Economics and Statistics, St. Cross Building, Manor Road, Oxford OX1 3UL, ENGLAND. **PG** 34. **PR** not available. **JE** C15, C13, C23. **KW** Monte Carlo. Estimation. Integration. Euler Equations.
AB We consider the estimation of parameters in Euler equations where regressand and regressors may be nonstationary, and propose a several-stage procedure requiring only knowledge of the Euler equation and the order of integration of the data. This procedure uses the information gained from pre-testing for the order of integration of data series to improve specification and estimation. We can also offer an explanation of the frequent empirical finding that discount rates and adjustment costs are poorly estimated. Both analytical and experimental (Monte Carlo) results are provided.

Domowitz, Ian
PD May 1991. **TI** The Electronic Order Book and Automated Trade Execution in Futures Markets. **AU** Domowitz, Ian; Wang, Jianxin. **AA** Northwestern University. **SR** Northwestern Kellogg Graduate School of Management Department of Finance Working Paper: 108; Kellogg Graduate School of Management, Northwestern

University, Evanston, IL 60208. **PG** 33. **PR** not available. **JE** G13, G18, D44. **KW** Futures Market. Trading. Government Policy. Auctions.
AB Trade execution in futures markets historically has been dominated by the institution of open outcry auction, a mode of trading that has been in place for over 140 years. In fact, legislative action in the United States has effectively mandated the use of this method in the physical locale of an open pit or floor since 1936. In this setting, traders meet face to face on the trading floor and call out bids and offers. A contract is traded when an outstanding verbal bid or offer is accepted. A new auction begins with each completed transaction, and the priority of bids and offers does not carry over from auction to auction.

Donaldson, R. Glen

PD January 1991. **TI** The Impact of Futures Market Manipulations on Optimal Cash Positions, Optimal Futures Positions, and Traders' Expected Utility. **AA** Princeton University. **SR** Princeton Financial Research Center Memorandum: 121; Financial Research Center, Department of Economics, Princeton University, Princeton, NJ 08544. **PG** 18. **PR** $3.00 U.S.; $6.00 foreign. **JE** G13. **KW** Futures Market. Hedging. Futures Pricing.
AB This paper analyzes formally the impact of a possible futures market manipulation on optimal cash positions, optimal futures positions and traders' expected utility. Results produced reveal that manipulations - or the fear of manipulations - will usually decrease hedging, output and consumption, and will always decrease traders' expected utility.

TI Manipulating Futures Markets and Commodity Prices by Corner and Squeeze. **AU** Cooper, David J.; Donaldson, R. Glen.

PD July 1991. **TI** Portfolio Insurance and Asset Prices. **AU** Donaldson, R. Glen; Uhlig, Harald. **AA** Princeton University. **SR** Princeton Financial Research Center Memorandum: 126; Financial Research Center, Department of Economics, Princeton University, Princeton, NJ 08544. **PG** 39. **PR** $3.00 U.S.; $6.00 foreign. **JE** G11, G12, G22. **KW** Asset Pricing. Insurance. Portfolio.
AB We develop a simple model in which the presence of portfolio insurers in a market of risk averse traders can lead to multiple equilibria for the pricing of financial assets. Some of these equilibria produce an insurance-induced crash in prices even when fundamentals are strong. In most cases, insurance increases price volatility. This volatility generally increases with the amount of funds under insurance and with the number of portfolio insurers. We demonstrate, however, that if large traders can effect prices then the existence of centralized portfolio insurance firms may reduce, not increase, volatility.

Drazen, Allan

PD July 1991. **TI** The Benefits of Crises for Economic Reforms. **AU** Drazen, Allan; Grilli, Vittorio. **AA** Drazen: University of Maryland, Tel Aviv University and NBER. Grilli: Birkbeck College, University of London, NBER, and CEPR. **SR** Tel Aviv Foerder Institute for Economic Research Working Paper: 27-91; Department of Economics, Tel Aviv University, Ramat Aviv 69978, Tel Aviv, ISRAEL. **PG** 24. **PR** no charge. **JE** E31, D60, E63. **KW** Inflation. Economic Reform. Social Welfare.
AB This paper present a model in which economic crises have positive effects on welfare. Periods of very high inflation create the incentive for the resolution of social conflict and thus facilitate the introduction of economic reforms and the achievement of higher levels of welfare. Policies to reduce the cost of inflation, such as indexation, raise inflation and delay the adoption of reforms, but have no effect on expected social welfare.

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

TI Why are Stabilizations Delayed? **AU** Alesina, Alberto; Drazen, Allan.

Dunn, Stephen

PD March 1991. **TI** The Impact of Employee Share Ownership on Worker Attitudes, A Longitudinal Case Study. **AU** Dunn, Stephen; Richardson, Ray; Dewe, Philip. **AA** Dunn and Richardson: London School of Economics. Dewe: Massey University. **SR** London School of Economics Centre for Economic Performance Discussion Paper: 24; Centre for Economic Performance, London School of Economics and Political Science, Houghton Street, London WC2A 2AE, ENGLAND. **PG** 23. **PR** no charge. **JE** J53, J54, G32. **KW** Case Study. Employee Ownership.
AB In spite of the proliferation of employee share ownership in the U.K. over the last 10 years, there are still relatively few studies seeking to evaluate its effects. The present paper reports a longitudinal case study of worker attitudes. Our focus is whether there was any attitude change over a period of twelve months following the introduction of employee share ownership in a particular establishment. Our control group was those who chose not to join the scheme. We conclude that there was no change in attitudes which should be attributed to the scheme. On the basis of this single case study, we are cautious about generalizing on the impact of employee share option schemes, but two propositions have significance. First, our results are an important qualification to those from some of the earlier case studies in the literature on employee attitudinal responses to share ownership schemes. Second, our longitudinal research method gave us insights on the patterns of attitudinal dynamics that the more usual research approach would not have revealed.

Dunn, Thomas A.

TI Relationships among the Family Incomes and Labor Market Outcomes of Relatives. **AU** Altonji, Joseph G.; Dunn, Thomas A.

Edison, Hali J.

PD August 1991. **TI** A Re-assessment of the Relationship between Real Exchange Rates and Real Interest Rates: 1974-1990. **AU** Edison, Hali J.; Pauls, B. Dianne. **AA** Board of Governors of the Federal Reserve System. **SR** Board of Governors of the Federal Reserve System International Finance Discussion Papers: 408; Division of International Finance, Board of Governors of the Federal Reserve System, Washington, DC 20551. **PG** 36. **PR** no charge. **JE** F31, E43. **KW** Exchange Rate. International Finance. Interest Rate.
AB The general view of the economics profession is that we can not explain exchange rate movements. However, some researchers still contend that the relationship between real interest rates and the real exchange rate is a useful framework

for thinking about exchange rate movements. This paper asks whether there is such a systematic relationship and whether it is revealed by the data. In our attempt to find such a relationship we investigate whether the empirical results are conditional on: (1) the time period selected, (2) the choice of interest rate, (3) the measure of expected inflation, and (4) the choice of exchange rate. The results show that exchange rates and interest rates, both nominal and real are nonstationary; however, they are not cointegrated with each other. On the other hand, the dynamic models indicate that there might be a long-run relationship between these variables, but cannot corroborate this.

Eichengreen, Barry

PD March 1991. **TI** Can Informal Cooperation Stabilize Exchange Rates? Evidence from the 1936 Tripartite Agreement. **AU** Eichengreen, Barry; James, Caroline R. **AA** University of California, Berkeley. **SR** University of California at Berkeley Working Paper in Economics: 91-162; IBER 156 Barrows Hall, University of California at Berkeley, Berkeley, CA 94720. **PG** 20. **PR** $3.50 plus applicable sales tax. **JE** F31, F42. **KW** Exchange Rate. Policy Coordination.
AB Can an informal agreement among governments to reduce exchange rate volatility really alter financial market behavior? The Plaza Agreement of September 1985 in which the major industrial countries agreed to steps to limit the rise of the dollar, the Louvre Accord of February 1987 which sought to stem the dollar's fall, and the Toronto Summit of June 1988 at which seven heads of state foreswore dollar depreciation and "destabilizing" appreciation of other currencies all have reactivated debate over this perennial question. There exists no consensus as to the answer. Those skeptical about the efficacy of sterilized intervention insist that the path of exchange rates can be affected only by altering domestic monetary and fiscal policies. International pressure may induce governments to alter monetary and fiscal policies temporarily, but if domestic objectives remain unchanged policy-makers will be unwilling to make those changes permanent.

PD March 1991. **TI** The Origins and Nature of the Great Slump, Revisited. **AA** University of California at Berkeley. **SR** University of California at Berkeley Working Paper in Economics: 91-156; IBER 156 Barrows Hall, University of California at Berkeley, Berkeley, CA 94720. **PG** 57. **PR** $3.50 plus applicable sales tax. **JE** N22, N24. **KW** Great Depression. Economic History.
AB More than a decade has passed since the Economic History Society last published a survey of the depression of the 1930's. That survey, Peter Fearon's, "The Origins and Nature of the Great Slump, 1929-1932," proved to be one of the best-selling numbers in the "Studies in Economic and Social History" series underwritten by the Society. The appeal of Fearon's pamphlet was that it treated the Depression of the 1930's as a global phenomenon. Rather than focusing on events in the United States, as had the most influential works of preceding years. A disturbing feature of Fearon's survey was the lack of consensus it revealed on the central issues. The reader may ask, given this state of affairs, what justifies another survey of such familiar terrain. The answer, I contend, is that the last decade has witnessed a hidden revolution in the macroeconomics of the 1930's.

PD July 1991. **TI** Designing a Central Bank for Europe: A Cautionary Tale from the Early Years of the Federal Reserve. **AA** University of California at Berkeley. **SR** University of California at Berkeley Working Paper in Economics: 91-176; IBER 156 Barrows Hall, University of California at Berkeley, Berkeley, CA 94720. **PG** 38. **PR** $3.50 plus applicable sales tax. **JE** E58, F33, F36. **KW** Monetary Integration. Central Bank. Federal Reserve System. Europe.
AB Important questions concerning the structure and operation of a European Central Bank (ECB) 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 with ongoing developments in Europe. This paper inquires about the operation of the European monetary policy after monetary unification and suggests that the early history of the Federal Reserve suggests that Stage 2 (process of monetary unification) of the Delors Plan contains potential sources of instability. The background also provides an argument for a direct transition from Stage 1 (national monetary autonomy) to Stage 3(complete centralization of authority). It suggests the need for more thought about the voting and mediation procedures to be used to reconcile and aggregate national interests and points to the advisability of reducing existing European central banks to mere branch offices of the ECB or of eliminating them entirely.

PD July 1991. **TI** The Eternal Fiscal Question: Free Trade and Protection in Britain, 1860-1929. **AA** University of California, Berkeley. **SR** University of California at Berkeley Working Paper in Economics: 91-171; IBER 156 Barrows Hall, University of California at Berkeley, Berkeley, CA 94720. **PG** 51. **PR** $3.50 plus applicable sales tax. **JE** N43, N44. **KW** Tariffs. Commercial Policy. Free Trade. Protectionism.
AB Britain's imposition in 1932 of a general tariff on imports from foreign countries was a sudden and dramatic break with a free trade tradition stretching back some three-quarters of a century to the Conservative Ministry of Sir Robert Peel.

El-Erian, Mohamed A.

PD August 1991. **TI** The Restoration of Latin America's Access to Voluntary Capital Market Financing - Developments and Prospects. **AA** International Monetary Fund. **SR** International Monetary Fund Working Paper: WP/91/74; International Monetary Fund, Washington, DC 20431. **PG** 11. **PR** not available. **JE** F34, G15. **KW** International Markets. Debt Crisis. External Debt. Public Finance. Latin America.
AB After a prolonged and almost total reliance on debt restructurings and concerted new money facilities, several Latin American countries have, over the last two years, mobilized voluntary financing from international capital markets. Although the phenomenon is still relatively limited in terms of volume and number of borrowers, it has nevertheless attracted considerable attention. The paper reviews the nature, magnitude and terms of the market re-entry process and, by drawing upon recent country experiences, analyzes the factors that have facilitated it. This provides the basis for a discussion of the key elements affecting the short-term prospects for Latin American private and public sector voluntary debt and equity financing from international capital markets.

Engel, Eduardo M. R. A.

TI Heterogeneity and Output Fluctuations in a Dynamic

Menu-Cost Economy. **AU** Caballero, Ricardo; Engel, Eduardo M. R. A.

Engle, R. F.

PD April 1990. **TI** Seasonal Cointegration: The Japanese Consumption Function 1961.1-1987.4. **AU** Engle, R. F.; Granger, Clive W. J.; Hylleberg, Svend; Lee, H. S. **AA** Engle, Granger, and Lee: University of California, San Diego. Hylleberg: University of Aarhus. **SR** Aarhus Institute of Economics Memo: 1990-10; Institute of Economics, University of Aarhus, Building 350, Universitetsparken, DK-8000 Aarhus C, DENMARK. **PG** 39. **PR** no charge. **JE** C22, C12, C15, E21. **KW** Seasonal Integration. Cointegration. Consumption. Japan. Monte Carlo Model.

AB A theory of seasonal cointegration and integration is discussed in Hylleberg, Engle, Granger and Yoo (1990) and tests for seasonal unit roots are also developed. For estimation and testing for seasonal cointegration at each frequency a two step procedure similar to the one suggested by Engle and Granger (1987) is investigated in this paper. Using Japanese data on consumption and income, evidence in favor of seasonal cointegration at frequency 1/4 is found. While the test statistics for non-cointegration occurring at the frequency 1/2 of a cycle have the same distribution as the test statistic obtained for the zero frequency case by Engle and Granger (1987) and Engle and Yoo (1987), the distribution of the test statistics for non-cointegration at the frequency 1/4 (and 3/4) is derived based on the asymptotic distribution theory for testing a pair of complex roots on the unit circle [Ahtola and Tiao (1987), Can and Wei (1988)], and the critical values are obtained through Monte Carlo simulations.

Ericsson, Neil R.

PD August 1991. **TI** PC-GIVE and David Hendry's Econometric Methodology. **AU** Ericsson, Neil R.; Campos, Julia; Tran, Hong-Anh. **AA** Ericsson and Tran: Board of Governors of the Federal Reserve System. Campos: Banco Central de Venzuela. **SR** Board of Governors of the Federal Reserve System International Finance Discussion Papers: 406; Division of International Finance, Board of Governors of the Federal Reserve System, Washington, DC 20551. **PG** 66. **PR** no charge. **JE** B41, C87, C51, C52. **KW** Cointegration. Model Specification. Conditional Models. Dynamic Specification. Model Evaluation. Exogeneity.

AB This paper summarizes David Hendry's empirical econometric methodology, unifying discussion in many of his and his co-authors' papers. Then, we describe how Hendry's suite of computer programs PC-GIVE helps users implement that methodology. Finally, we illustrate that methodology and the programs with three empirical examples: post-war narrow money demand in the United Kingdom, nominal income determination in the United Kingdom from Friedman and Schwartz (1982) and consumers' expenditure in Venezuela. These examples help clarify the methodology's central concepts, which include cointegration, error correction, general-to-simple modeling, dynamic specification, model evaluation and testing, parameter constancy, and exogeneity.

Estrin, Saul

PD March 1991. **TI** Survivability and Degeneration in Employee-Owned Firms: Evidence from France. **AU** Estrin, Saul; Jones, Derek J. **AA** Estrin: London School of Economics. Jones: Hamilton College. **SR** London School of Economics Centre for Economic Performance Discussion Paper: 23; Centre for Economic Performance, London School of Economics and Political Science, Houghton Street, London WC2A 2AE, ENGLAND. **PG** 28. **PR** no charge. **JE** J54, G32. **KW** Cooperatives. Ownership Structure. Financing Policy.

AB It has been argued that employee owned firms are not a viable organizational form; either they will fail as commercial undertakings or degenerate into capitalist firms as the proportion of hired workers increases. In this paper, we assemble "stylized facts" on, and investigate empirically diverse hypotheses of, survivability and degeneration. Using data for French employee owned firms we find no evidence for degeneration in the key variables - productivity, profitability or capital-intensity. However, the financial structure of these firms does become increasingly inefficient with age.

Fair, Ray C.

PD July 1991. **TI** How Fast do Old Men Slow Down? **AA** Yale University. **SR** Yale Cowles Foundation Discussion Paper: 989; Yale University, Cowles Foundation, Box 2125, Yale Station, New Haven, CT 06520. **PG** 24. **PR** $2.00. **JE** J14. **KW** Elderly.

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.

Farmer, Roger

TI The Aggregate Effects of Monetary Externalities. **AU** Benhabib, Jess; Farmer, Roger.

Fenn, George

PD July 1991. **TI** Prudential Margin Policy in a Futures-Style Settlement System. **AU** Fenn, George; Kupiec, Paul. **AA** Board of Governors of the Federal Reserve System. **SR** Board of Governors of the Federal Reserve System Finance and Economics Discussion Series: 164; C/O Steven A. Sharpe, Mail Stop 89, Federal Reserve Board, Washington, DC 20551. **PG** 55. **PR** no charge. **JE** G13, G14. **KW** Futures Pricing. Futures Market. Margins. Volatility.

AB Futures market clearinghouses to date have compiled a noteworthy record of risk management, with very few defaults recorded even during periods of extremely volatile markets. The aim of this paper is to gain some understanding of how clearinghouses manage risk, and in particular, the extent to which they manage their risk exposure through an active margin management policy. We articulate a theory of margin setting which predicts a stable relationship between margins and price volatility. Empirically, we find that the relationship of stock index futures margins to price volatility is unstable; in particular, margins have not been adjusted as frequently in response to changes in volatility as our theory would suggest.

Figlewski, Stephen

PD February 1991. **TI** The Pricing of Convexity Risk and

Time Decay in Options Markets. **AU** Figlewski, Stephen; Freund, Steven. **AA** Figlewski: New York University. Freund: Pennsylvania State University. **SR** New York University Salomon Brothers Center Working Paper: S-91-21; 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** 24. **PR** $5.00. **JE** G12, G14. **KW** Asset Pricing. Option Prices. Stock Market.

AB The Black-Scholes model and other related option valuation formula assume an environment in which all risk can be eliminated by a continuously rebalanced hedge. In this paper we identify two sources of risk in real world options that arise because hedged positions can only be adjusted discretely: convexity of the option pricing function and time decay. We develop measures for the option risk associated with these characteristics and examine transactions data drawn from the Berkeley options data base for evidence that the market prices these risks. We find a significant price effect associated with convexity, which becomes larger immediately following a period of increased stock price movements. The results regarding the pricing of time decay were not as strong as for convexity, but were statistically significant, with the hypothesized sign, in a multiple regression that included the convexity measure.

TI International Asset Allocation with Time Varying Risk: An Analysis and Implementation. **AU** Cumby, Robert; Figlewski, Stephen; Hasbrouck, Joel.

TI The Informational Content of Implied Volatility. **AU** Canina, Linda; Figlewski, Stephen.

TI The Informational Content of Implied Volatility. **AU** Canina, Linda; Figlewski, Stephen.

Fishback, Price V.

PD July 1991. **TI** Strikes and Wages Prior to the National Labor Relations Act. **AA** University of Arizona. **SR** University of Arizona Economics Working Paper: 91-16; Department of Economics, Bldg #23, University of Arizona, Tucson, AZ 85721. **PG** 26. **PR** $2 Canada and U.S.; $3 Overseas by air. **JE** J52, J51, J58. **KW** Strikes. Collective Bargaining. Wages.

AB Modern studies of strike activity focus on situations where collective bargaining is already established. Some suggest that strike duration and wages will be negatively related, as unions use strikes as a means of determining the rents available to employers. Prior to the National Labor Relations Act of 1935, workers often had to use the strike to establish collective bargaining in the first place, which could lead to a positive relationship between strike duration and wages. Using evidence from the coal industry from 1912 to 1923, regression analysis shows a positive relationship between strike duration and wages. Further calculations of the direct pecuniary costs and benefits of strikes shows that in many cases the benefits of higher wages were more than offset by the costs of lost earnings during the course of the strike. Strikes therefore may have been miscalculations, might have been used to establish a reputation for toughness, or may have benefited some workers at the expense of others.

PD July 1991. **TI** The Economics of Company Housing: Historical Perspectives from the Coal Fields. **AA** University of Arizona. **SR** University of Arizona Economics Working Paper: 91-15; Department of Economics, Bldg #23, University of Arizona, Tucson, AZ 85721. **PG** 32. **PR** $2 Canada and U.S.; $3 Overseas by air. **JE** L22, N32, R31, J53. **KW** Vertical Integration. Monopoly. Housing. Unions.

AB Company towns are cited as the classic example of monopoly, where employers owned the store and all the housing in the area. The labor history literature insists that companies not only exploited the housing monopoly but used control of housing to limit collective action by workers and obtain monopsony power in the labor market. On the other hand, Williamson describes company towns as responses to transactions costs associated with the asset-specificity of housing to the mine. This paper uses evidence from independent and company-controlled coal communities in the early 1900's to assess the monopoly and transaction-cost explanations of company housing. Coal companies were unable to exploit a local housing monopoly because they hire workers in a competitive regional labor market. The timing and location of company towns is more consistent with the transactions cost analysis than with the anti-collective action hypothesis.

PD July 1991. **TI** Gun Thugs, Rednecks, and Scabs: Violence in the Bituminous Coal Industry. **AA** University of Arizona. **SR** University of Arizona Economics Working Paper: 91-14; Department of Economics, Bldg #23, University of Arizona, Tucson, AZ 85721. **PG** 110. **PR** $2 Canada and U.S.; $3 Overseas by air. **JE** J52, N72, N71. **KW** Strikes. Coal Mining. Labor Relations.

AB Prior to the National Labor Relations Act, violence was a more common trait in labor disputes. The bituminous coal industry was among the most violent of industries. Some strikes escalated to full-scale warfare, where state militia and federal troops were required to maintain order. This paper offers descriptions of common features of violent strikes, a chronology of the violent events in bituminous coal mining from 1890 to 1930, and an explanation for why employers and workers resorted to violence. Using aggressive violence strategically was a costly strategy that both sides recognized could backfire easily. The violent events seem consistent with a view that both sides armed to deter violence by the other side, each side had problems in controlling their more aggressive members, and violence often occurred in the confusion accompanying strike events.

PD July 1991. **TI** The Good, the Bad, and the Paycheck: Compensating Differentials in Labor Markets, 1884-1903. **AU** Fishback, Price V.; Kantor, Shawn. **AA** University of Arizona. **SR** University of Arizona Economics Working Paper: 91-13; Department of Economics, Bldg #23, University of Arizona, Tucson, AZ 85721. **PG** 57. **PR** $2 Canada and U.S.; $3 Overseas by air. **JE** N31, J31. **KW** Labor Markets. Wage Determination. Wage Differentials.

AB Hedonic wage equations estimated with evidence on individual workers collected by state labor bureaus at the turn of the century display many similarities between past and present labor markets. Earnings profiles rise at a diminishing rate with increases in experience and schooling. Women received significantly lower wages than men, and child responsibilities lowered their earnings. Some industries paid higher wages than other industries, even after controlling for a number of worker-specific characteristics. Workers in unions received higher wages. As we see in modern labor markets, workers were compensated for at least some workplace characteristics. Children in New Jersey were compensated for working at night, exposure to profanity, and for illness.

Workers (primarily males) in Kansas, California, and Maine were paid higher wages for accepting more accident risk. Wages did not adjust as effectively to the smaller less varied accident risk faced by women and children in the labor market. Finally, there is some evidence that workers received compensation for greater risks of layoffs in Kansas, Maine and California.

Flood, Robert P.

PD February 1991. **TI** An Empirical Exploration of Exchange Rate Target-Zones. **AU** Flood, Robert P.; Rose, Andrew K.; Mathieson, Donald J. **AA** Flood and Mathieson: International Monetary Fund. Rose: University of California at Berkeley. **SR** International Monetary Fund Working Paper: WP/91/15; International Monetary Fund, Washington, DC 20431. **PG** 41. **PR** not available. **JE** F31, E42. **KW** Exchange Rate. Target Zone.

AB In the context of a flexible price monetary exchange rate model and the assumption of uncovered interest parity, we obtain a measure of the fundamental determinant of exchange rates. Daily data for the European Monetary System are used to explore the importance of nonlinearities in the relationship between the exchange rates and fundamentals. Many implications of existing "target zone" exchange rate models are tested; little support is found for existing nonlinear models of limited exchange rate flexibility.

Follmer, Hans

PD October 1990. **TI** Hedging of Contingent Calims under Incomplete Information. **AU** Follmer, Hans; Schweizer, Martin. **AA** University of Bonn. **SR** Universitat Bonn Sonderforschungsbereich 303 - Discussion Paper: B-166; Sonderforschungsbereich 303 an der Universitat Bonn Adenauerallee 24-42, D5300 Bonn 1, GERMANY. **PG** 22. **PR** no charge. **JE** G12, G11, D52. **KW** Financial Markets. Option Pricing. Hedging. Contingent Claim. Stock Market.

AB Consider a financial market where the price fluctuation of stocks is given by a stochastic process, X, on some probability space. If this market is complete then any contingent claim, viewed as a random variable on this probability space, can be generated by a dynamic portfolio strategy based on the underlying stock process X. This was the basic economic insight behind the Black-Scholes formula for option pricing. In the absence of arbitrage opportunities, there is an equivalent probability measure $P^* = P$ such that X is a martingale under P^*; this implies that X is a semimartingale under the basic measure P. From a mathematical point of view, completeness now means that any contingent claim H can be represented as a stochastic integral of the semimartingale X. In this paper we consider the general case $P=P^*$ where X is no longer a martingale, but only a semimartingale under the given measure P.

Frank, Andras

PD December 1990. **TI** On a Theorem of Mader. **AA** Eotvos University, Budapest. **SR** Universitat Bonn Sonderforschungsbereich 303 - Discussion Paper: 90672-OR; Sonderforschungsbereich 303 an der Universitat Bonn, Adenauerallee 24-42, D-5300 Bonn 1, GERMANY. **PG** 11. **PR** no charge. **JE** C60. **KW** Graph Theory. Undirected Graph..

AB A relatively simple proof is given for (a slight strengthening of) a theorem of W. Mader on the existence of splittable pairs of edges in an undirected graph.

PD February 1991. **TI** On Sparse Subgraphs Preserving Connectivity Properties. **AU** Frank, Andras; Ibaraki, Toshihide; Nagamochi, Hiroshi. **AA** Frank: University of Bonn and Eotvos University, Budapest. Ibaraki and Nagamochi: Kyoto University, Japan. **SR** Universitat Bonn Sonderforschungsbereich 303 - Discussion Paper: 91684-OR; Sonderforschungsbereich 303 an der Universitat Bonn, Adenauerallee 24-42, D-5300 Bonn 1, GERMANY. **PG** 7. **PR** no charge. **JE** C60. **KW** Graph Theory. Sparse Subgraph. Finite Graphs.

AB From a theorem of W. Mader [1972] it follows that a k-connected (k-edge-connected) graph G= (V,E) always contains a k-connected (k-edge-connected) subgraph G'=(V,E') with O(k|V|) edges, Nishizeki and Poljak (1990) showed how G' can be constructed as the union of k forests. Nagamochi and Ibaraki [1989] constructed such a subgraph G(k) in linear time and showed for any pair x,y of nodes that G(k) contains k openly disjoint (edge-disjoint) paths connecting x and y if G contains k openly disjoint (edge-disjoint) paths connecting x and y (even if G is not k-connected (k-edge-connected)). In this note we provide a much shorter proof of a common generalization of the edge and node connectivity versions showing that the subgraph G(k) has a certain mixed connectivity property.

Frank, Richard

PD June 1991. **TI** Incentives, Optimality, and Publicly Provided Goods: The Case of Mental Health Services. **AU** Frank, Richard; Gaynor, Martin. **AA** Johns Hopkins University and National Bureau of Economic Research. **SR** Johns Hopkins Department of Economics Working Paper: 268; Department of Economics, Johns Hopkins University, Baltimore, Maryland 21218. **PG** 37. **PR** no charge. **JE** H77, I18, I11, H72. **KW** Intergovernmental Transfers. Mental Health. Health Care. Local Governments. Government Spending.

AB In this paper we investigate the incentives present in intergovernmental transfers for public mental health care. This represents an important issue due to the large portion of mental health care that is provided by local governments, the central role of states in financing care via intergovernmental transfers, and recent innovations adopted by some states altering the traditional terms of these transfers. Using a relatively simple model we show that when a state government provides both financing and a free input into local government production there will be excessive use of that input. If the preferences of society and those of the local provider of service are identical, this problem can be remedied by simply charging the provider a price equal to marginal cost for use of the input.

Frankel, Jeffrey A.

PD March 1991. **TI** The Obstacles to Macroeconomic Policy Coordination in the 1990's and an Analysis of International Nominal Targeting (INT). **AA** University of California, Berkeley and National Bureau of Economic Research. **SR** University of California at Berkeley Working Paper in Economics: 91-160; IBER 156 Barrows Hall, University of California at Berkeley, Berkeley, CA 94720. **PG** 48. **PR** $3.50 plus applicable sales tax. **JE** F42, F47, F41. **KW** International Policy. Policy Coordination. Open Economy.

AB The paper reviews the recent history of international policy coordination, including examples of three sorts of obstacles to successful coordination: the difficulties of, respectively, compliance, credibility, and certainty. It is argued that nominal GNP targeting has the best chance of overcoming such obstacles as compared, in particular, to money targeting. The McKibbin Sachs Global model is used to evaluate an internationally coordinated version of nominal GNP targeting, in the presence of shocks in oil prices, money demand, and goods demand.

PD March 1991. **TI** Convertibility and the Czech Crown. **AA** University of California at Berkeley and National Bureau of Economic Research. **SR** University of California at Berkeley Working Paper in Economics: 91-159; IBER 156 Barrows Hall, University of California at Berkeley, Berkeley, CA 94720. **PG** 18. **PR** $3.50 plus applicable sales tax. **JE** O52, F31, F32. **KW** Economic Reform. Current Account. Exchange Rate.
AB This paper was written during a visit to Czechoslovakia in August 1990. It discusses basic conceptual issues dealing with currency convertibility in general and the current Czech reform program in particular. One set of issues concerns possible restrictions on parts of the balance of payments, such as the repatriation abroad of profits. Another concerns the best way to set the level of the exchange rate. Recommendations include: no restrictions on current account convertibility, and an exchange rate peg higher than the 1990 official rate but lower than the black market and auction rates. A 1991 addendum notes Czechoslovakia's January move to convertibility.

PD March 1991. **TI** Exchange Rate Forecasting Techniques, Survey Data, and Implications for the Foreign Exchange Market. **AU** Frankel, Jeffrey A.; Froot, Kenneth. **AA** Frankel: University of California, Berkeley and National Bureau of Economic Research. Froot: Harvard University and International Monetary Fund. **SR** University of California at Berkeley Working Paper in Economics: 91-158; IBER 156 Barrows Hall, University of California at Berkeley, Berkeley, CA 94720. **PG** 38. **PR** $3.50 plus applicable sales tax. **JE** F31. **KW** Exchange Rate. Foreign Exchange.
AB The paper presents a variety of new empirical results regarding the dynamics of the foreign exchange market. The first half is an updated study of the exchange rate expectations held by market participants, as reflected in median responses to surveys. Conclusions include: (1) the bias that is observed in the forward discount as a predictor of the future spot rate is not attributable to an exchange risk premium as conventionally believed. (2) At short horizons forecasters tend to extrapolate recent trends, while at long horizons they tend to forecast a reversal. (3) Expectations are biased in-sample, even on eight years of data, across five currencies. The second half of the paper abandons the framework in which all market participants share the same forecast, to focus on the importance of heterogeneous expectations.

PD March 1991. **TI** The Making of Exchange Rate Policy in the 1980's. **AA** University of California, Berkeley and National Bureau of Economic Research. **SR** University of California at Berkeley Working Paper in Economics: 91-157; IBER 156 Barrows Hall, University of California at Berkeley, Berkeley, CA 94720. **PG** 63. **PR** $3.50 plus applicable sales tax. **JE** F31, D78. **KW** Dollar. Exchange Rate. Policy-Making.
AB This paper, written for an NBER conference on "American Economic Policy in the 1980's," discusses the dollar from the standpoint of why the political system adopted the policies that it did, rather than of what moved the exchange rate or what policies might have been better. The first half is a chronology of major exchange rate developments during the decade. The second half analyzes the actors and interest groups involved, their views on exchange rate policy, and the system within which they interacted.

PD May 1991. **TI** The Stabilizing Properties of a Nominal GNP Rule in an Open Economy. **AU** Frankel, Jeffrey A.; Chinn, Menzie. **AA** University of California at Berkeley. **SR** University of California at Berkeley Working Paper in Economics: 91-166; IBER 156 Barrows Hall, University of California at Berkeley, Berkeley, CA 94720. **PG** 97. **PR** $3.50 plus applicable sales tax. **JE** E52, E42, F41. **KW** Inflation. Monetary Targeting. Monetary Policy. Output.
AB The main paper examines the ability of a nominal GNP rule for a monetary policy to stabilize output and inflation in an open economy. The rules compare favorably to the extent that a time consistent commitment to a nominal anchor is needed to eliminate an inflationary bias in the economy. The choice among the three rules depends on the relative magnitudes of the three sorts of disturbances considered: supply shocks, money demand shocks, and exchange rate shocks. The paper computes the actual variances of these shocks, to allow a more definitive comparison of regimes. When the shocks are assumed uncorrelated, nominal GNP targeting dominates the other regimes for an extremely wide range of parameter values. When allowance is made for the correlation between money demand shocks and exchange rate shocks, for some major countries there exist some parameter values where the nominal GNP rule does not dominate the exchange rate rule, but the overall case for the nominal GNP rule is still strong, especially for the United States.

PD May 1991. **TI** A Note on Internationally Coordinated Policy Packages Intended to be Robust under Model Uncertainty or Policy Cooperation under Uncertainty: The Case for Some Disappointment. **AA** University of California at Berkeley. **SR** University of California at Berkeley Working Paper in Economics: 91-167; IBER 156 Barrows Hall, University of California at Berkeley, Berkeley, CA 94720. **PG** 37. **PR** $3.50 plus applicable sales tax. **JE** F42. **KW** Policy Coordination. Cooperation. Uncertainty.
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.

French, Mark W.

PD June 1991. **TI** Cyclical Patterns in the Variance of Economic Activity. **AU** French, Mark W.; Sichel, Daniel E. **AA** Board of Governors of the Federal Reserve System.

SR Board of Governors of the Federal Reserve System Finance and Economics Discussion Series: 161; C/O Steven A. Sharpe, Mail Stop 89, Federal Reserve Board, Washington, DC 20551. **PG** 12. **PR** no charge. **JE** E32, E37, E23, C50. **KW** Business Cycle. Economic Fluctuations. GNP.

AB This paper models the conditional mean and variance of several macroeconomic variables using asymmetric exponential GARCH, a model previously applied only to financial variables. In particular, we apply this model to real GNP, its components, employment, and industrial production. Three principal results emerge. First, the variance of real GNP is higher in downturns than in upturns. Graphical evidence suggests that the larger variance is concentrated in the period around business cycle troughs. Second, the asymmetry in GNP arises in the cyclically sensitive sectors. Third, shocks to the conditional variance of GNP and its components typically persist for long periods. The results in this paper -- asymmetry and persistence in variance -- have substantive and methodological implications. First, buffer stock models of saving and inventory investment -- which depend explicitly on estimates of the variance of income and activity -- should allow for asymmetry and persistence in variance. Second, the evidence calls into question the use of linear models with unconditionally normal errors, since such models cannot generate the asymmetry or persistence we found.

Frenkel, Jacob A.

PD February 1991. **TI** International VAT Harmonization: Economic Effects. **AU** Frenkel, Jacob A.; Razin, Assaf; Symansky, Steven. **AA** International Monetary Fund. **SR** International Monetary Fund Working Paper: WP/91/22; International Monetary Fund, Washington, DC 20431. **PG** 31. **PR** not available. **JE** F11, F41, H21. **KW** Taxes. Open Economy.

AB This paper highlights key macroeconomic issues related to VAT harmonization. A model is developed which emphasizes the effects of changes in the time profile of various taxes on international behavior. Dynamic simulations reveal that the macroeconomic and welfare implications of VAT harmonization, including conflicts of interest, depend critically on the tax system and the degree of substitution governing temporal and intertemporal allocations. We also demonstrate that the effects of revenue-neutral tax conversions between income and consumption tax systems undertaken by a single country depend critically on international differences in behavior.

TI From Centrally-Planned to Market Economies: The Road from CPE to PCPE. **AU** Calvo, Guillermo A.; Frenkel, Jacob A.

TI Obstacles to Transforming Centrally-Planned Economies: The Role of Capital Markets. **AU** Calvo, Guillermo A.; Frenkel, Jacob A.

Freund, Steven

TI The Pricing of Convexity Risk and Time Decay in Options Markets. **AU** Figlewski, Stephen; Freund, Steven.

Froot, Kenneth

TI Exchange Rate Forecasting Techniques, Survey Data, and Implications for the Foreign Exchange Market. **AU** Frankel, Jeffrey A.; Froot, Kenneth.

Fry, Richard A.

PD May 1991. **TI** Does North American Labor Demand Adjustment Differ from that in Britain? **AA** Federal Trade Commission. **SR** Federal Trade Commission Bureau of Economics Working Paper: 188; Bureau of Economics, Federal Trade Commission, 6th and Pennsylvania Ave. NW, Washington, D.C. 20580. **PG** 38. **PR** no charge. **JE** J23, J65, L60. **KW** Unemployment. Labor Demand. Labor Markets. Manufacturing.

AB This paper examines the degree of employment and hours per worker adjustment among comparable British, Canadian, and U.S. manufacturing industries. The standard adjustment cost model of dynamic labor demand, assuming nonmyopic firm expectations of the forcing variables, serves as the empirical framework, The results indicate that the estimated speeds of employment adjustment and average hours worked adjustment among British manufacturing industries resemble those of North American manufacturing industries. In addition to the analysis of comparative adjustment behavior, empirical results are also presented regarding the effect of the real wage rate on short-run labor demand.

Funke, Michael

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

Galbraith, John W.

TI Estimating Intertemporal Quadratic Adjustment Cost Models with Integrated Series. **AU** Dolado, Juan; Galbraith, John W.; Banerjee, Anindya.

Galenson, David W.

PD February 1991. **TI** Precedence and Wealth: Evidence from Nineteen Century Utah. **AU** Galenson, David W.; Pope, Clayne L. **AA** Galenson: University of Chicago. Pope: Brigham Young University. **SR** National Bureau of Economic Research Working Paper Series on Historical Factors and Long-Run Growth: 22; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PG** 31. **PR** $2.00. **JE** N31, R23. **KW** Households. Wealth Distribution.

AB Earlier work has established a strong positive relationship between a household's wealth and its duration in the local economy. This paper explores the possible connection between the magnitude of this wealth/duration relationship and the community's precedence rate -- the percentage of households in a given year (1870) present in the same locale in an earlier year (1860). We hypothesize that a low precedence rate will be associated with a high return to the household's duration in the local economy, controlling for the size of the local population. This hypothesis is tested and tentatively confirmed for the counties of Utah in 1870. We also find that a low precedence rate is associated with increased inequality.

Gali, Jordi

PD April 1991. **TI** Long-Run Effects of Business Cycles. **AU** Gali, Jordi; Hammour, Mohamad L. **AA** Columbia University. **SR** Columbia Department of Economics Working Paper: 540; Department of Economics, Columbia University, New York, New York 10027. **PG** 30. **PR** $5.00. **JE** J24, E32, O47. **KW** Productivity. Business Cycle. Economic Fluctuations. Growth Model.

AB This paper investigate the effects of economic fluctuations on productivity. An empirical VAR model is constructed in which two types of shocks -- "technology" and "demand" shocks -- affect the dynamics of a measure of productivity growth and an index of the business cycle. Identification is achieved by assuming that demand shocks have no contemporaneous effects on productivity. We find that positive demand shocks tend to reduce productivity in the long-run. A number of interpretations are discussed, and illustrated with a simple model of endogenous growth through human capital accumulation. The predicted impulse response functions of the calibrated model are then compared with the estimated ones.

Galor, Oded

PD May 1991. **TI** A Two-Sector Overlapping-Generations Model: A Global Characterization of the Dynamical System. **AA** Brown University. **SR** Brown University Department of Economics Working Paper: 91-15; Department of Economics, Brown University, Providence, Rhode Island 02912. **PG** 55. **PR** not available. **JE** D91, D11, D12, O41. **KW** Growth Model. Overlapping Generations. Consumption.

AB This paper attempts to establish an analytically tractable framework for the analysis of dynamic economic phenomena whose modeling necessitates a multi-dimensional commodity space. The paper develops a two-sector overlapping generations model along the lines of the two-sector optimal growth model. The study provides a global characterization of the dynamical system. The analysis demonstrates that, in the presence of gross substitutability in consumption and normality of old age consumption, if the investment good is capital intensive there exists a globally unique perfect foresight equilibrium, whereas if the consumption good is capital intensive the perfect foresight equilibrium may be indeterminate.

Garvie, Devon A.

PD march 1991. **TI** Public Firms as Regulatory and Auditing Instruments. **AU** Garvie, Devon A.; Ware, Roger. **AA** Queen's University. **SR** Queen's Institute for Economic Research Discussion Paper: 809; Department of Economics, Queen's University, Kingston, Ontario, CANADA K7L 3N6. **PG** 38. **PR** $3.00 Canada; $3.00 U.S.; $3.50 foreign. **JE** L11, L32, L51. **KW** Public Firms. Auditing. Regulation.

AB We re-examine the regulatory role of a public form in an environment of private but correlated information about industry costs. We study three regimes by mixed market interaction involving both public and private firms: a symmetric Bayesian-Nash equilibrium, an asymmetric Bayesian equilibrium in which the public firm is able to commit to production before the private firms and a mechanism in which the regulator designs an incentive compatible schedule for the industry. We find that a public firm plays an important strategic informational role which strengthens its role as a disciplinary regulatory instrument. Further, we find that this strategic informational role is considerably enhanced as we move from indirect regulatory schemes to direct regulation.

TI Contractual Design with Correlated Information under Limited Liability. **AU** Demougin, Dominique M.; Garvie, Devon A. **PD** June 1991. **TI** Regulatory Auditing and Ramsey Pricing. **AA** Queen's University. **SR** Queen's Institute for Economic Research Discussion Paper: 824; Department of Economics, Queen's University, Kingston, Ontario, CANADA K7L 3N6. **PG** 30. **PR** $3.00 Canada; $3.00 U.S.; $3.50 foreign. **JE** L51, D82, C44, M41. **KW** Regulation. Natural Monopoly. Auditing. Accounting.

AB Truthful revelation mechanisms with auditing have the undesirable property that audits are not actually performed in equilibrium because all inference problems have been solved. A model is proposed in which the inference problem is preserved by separating the regulatory and auditing functions and transfers are costly. The auditor designs a Bayesian audit procedure and the regulator credibly commits to using this procedure in the regulatory mechanism. The auditor is conservative, that is, he does not like to make mistakes for his client. Second-best allocation is achieved over a well-defined auditing region of the regulator's prior beliefs about firm type. The auditing region is increasing in the precision of the auditing technology and is decreasing in the strength of the regulator's prior beliefs.

Gately, Dermot

PD March 1991. **TI** Imperfect Price-Reversibility of Oil Demand: Responses to Price Declines and Recoveries. **AA** New York University. **SR** New York University Economic Research Reports: 91-20; New York University, Faculty of Arts and Science, Department of Economics, Washington Square, New York, N.Y. 10003. **PG** 17. **PR** no charge. **JE** Q41, Q43, Q31. **KW** Oil. Energy. Demand Model. Prices.

AB This paper proposes a framework for analyzing the imperfect price-reversibility of oil demand: the oil demand reductions following the oil price increases of the 1970's will not be completely reversed by the price cuts of the 1980's, nor is it necessarily true that these demand reversals themselves will be reversed exactly by future price increases. We decompose price into three monotonic series: price increases to maximum historic level, price cuts, and price recoveries (increases below historic highs); and we require that the response to price cuts be no greater than to price recoveries, which in turn be no greater than for increases in maximum historic price. We define indices for Up-Down price reversibility, Down-Up price reversibility, and the ratchet effect; we use these to create a taxonomy of reversibility. Finally, we examine the reversibility of several prominent models of the world oil market which participated in a recent study by Stanford's Energy Modeling Forum.

Gavin, Michael

PD April 1991. **TI** Terms of Trade, the Trade Balance, and Stability: The Role of Savings Behavior. **AA** Columbia University. **SR** Columbia Department of Economics Working Paper: 539; Department of Economics, Columbia University, New York, New York 10027. **PG** 28. **PR** $5.00. **JE** F31, F32, F41. **KW** Open Economy. Devaluation. Trade Balance. Exchange Rate.

AB Whenever devaluation leads to a deterioration in the terms of trade, the direction of its impact on the trade balance becomes problematical. For this reason, the Marshall-Lerner condition on demand elasticities plays an important role in conventional models of the open macroeconomy. Some variant of that condition generally determines the impact of a change in the terms of trade on the trade balance, and also determines the stability properties of the model. As a practical matter too, some authors and policy-makers have taken very seriously the danger that a flexible exchange rate system would display instability if demand elasticities were sufficiently low, as early econometric evidence suggested they might be. While the possibility of stability has been viewed by macroeconomists as a problem, it provides for international trade theorists a solution, for by requiring stability of equilibrium such theorists can often rule out perverse comparative statics results.

PD May 1991. **TI** Devaluation, the Terms of Trade, and Investment in a Keynesian Economy. **AA** Columbia University. **SR** Columbia Department of Economics Working Paper: 543; Department of Economics, Columbia University, New York, New York 10027. **PG** 28. **PR** $5.00. **JE** F31, E22, F21. **KW** Exchange Rate. Macroeconomic Model. Investment.
AB This investigates the impact of current and anticipated future devaluation in a macroeconomic model that incorporates the assumption of rational investment decisions, in a world in which investment goods can be imported. Devaluation will lead to a reduction in domestic investment if (i) the share of imports in total investment expenditure is high enough and (ii) Keynesian, nominal price rigidities vanish slowly enough. Otherwise investment will increase after devaluation. In either case, anticipated devaluation is bad for investment.

PD May 1991. **TI** The Mexican Oil Boom: 1977-1985. **AA** Columbia University. **SR** Columbia Department of Economics Working Paper: 548; Department of Economics, Columbia University, New York, New York 10027. **PG** 66. **PR** $5.00. **JE** Q31, Q32, O54. **KW** Oil. Energy. Exports. Mexico. Economic Policy.
AB Throughout the twentieth century petroleum has played a prominent, and occasionally a decisive role in Mexico's political and economic development, and the past fifteen years have been no exception. Mexico was profoundly shaken by the oil market disturbances which rocked the world economy during the 1970's and early 1980's, and only very recently has Mexico emerged from the macroeconomic cloud left by that period. This paper assesses the impact of the oil market disturbances of the 1970's and early 1980's on the Mexican economy. The principle difficulty in doing so lies in disentangling their effects from the effects of other external and domestic economic policy disturbances.

Gaynor, Martin

PD July 1991. **TI** Productivity Consequences of Alternative Land Division Methods in China's Decollectivization: An Econometric Analysis. **AU** Gaynor, Martin; Putterman, Louis. **AA** Gaynor: Johns Hopkins University and National Bureau of Economic Research. Putterman: Brown University. **SR** Johns Hopkins Department of Economics Working Paper: 270; Department of Economics, Johns Hopkins University, Baltimore, Maryland 21218. **PG** 39. **PR** no charge. **JE** Q15, P32, Q12, O13. **KW** China. Land Distribution. Productivity. Economic Reform. Rural Economies. Agriculture.
AB In this paper we examine the productivity effect of the manner of distributing collective land to households under the Chinese economic reforms of the 1980's. A simple theory of household decision-making is developed for the commonly observed case in which labor and land markets are largely nonexistent in agriculture, and the theory leads to the result that agricultural output is concave in the proportion of land distributed according to workforce as opposed to household size. The hypothesis is tested on data for 61 production teams of a township (formerly commune) in Hebei Province. Under a quadratic specification, grain output displays the expected concave relationship with the land distribution parameter. There is no statistically significant relationship that can be detected for the gross value of agriculture output. Our results provide some evidence of congruence between equality in the distribution of resources, and incentives for productivity.

TI Incentives, Optimality, and Publicly Provided Goods: The Case of Mental Health Services. **AU** Frank, Richard; Gaynor, Martin.

PD July 1991. **TI** Productivity Consequences of Alternative Land Division Methods in China's Decollectivization: An Econometric Analysis. **AU** Gaynor, Martin; Putterman, Louis. **AA** Gaynor: Johns Hopkins University. Putterman: Brown University. **SR** Brown University Department of Economics Working Paper: 91-20; Department of Economics, Brown University, Providence, Rhode Island 02912. **PG** 39. **PR** not available. **JE** Q15, P32, Q12, O13. **KW** China. Land Distribution. Productivity. Economic Reform. Rural Economies. Agriculture.
AB In the 1970's, some economists argue that distributive and developmental goals could be harmonized by more equally distributing not post-production income but rather pre-production assets, including land and education. At the same time, development economists were moving toward a consensus that there are few if any economies of scale in agricultural production using technologies appropriate to LDC factor endowments. This finding supported the view that in the realm of land distribution, at least, equity and efficiency may not have to be traded off one against the other. A reason commonly adduced for the superiority of family farms is the lower supervision cost of superior incentives of family labor. To date, however, the theory of household effort choice has not been closely linked to the analysis of land distribution.

Genberg, Hans

PD February 1991. **TI** On the Sequencing of Reforms in Eastern Europe. **AA** Graduate Institute of International Studies. **SR** International Monetary Fund Working Paper: WP/91/13; International Monetary Fund, Washington, DC 20431. **PG** 32. **PR** not available. **JE** P21, P23, O57. **KW** Economic Reform. Europe. Market Economy.
AB This paper discusses issues related to the sequencing of the reforms that are necessary to transform the economies in Eastern Europe into market economies. It is first argued that the transition path of these economies will be smoother and less costly if a clear statement of the ultimate goals of the reforms is made at the outset. Interdependence between different aspects of the reforms implies that an appropriate strategy is to move on a broad front from the very beginning of the transformation process dealing simultaneously with macroeconomic stabilization, price reforms and convertibility, and privatization of state enterprises. It is also argued that a rapid reform process is preferable to a gradual one.

Geralavicius, Vaidievutis

PD March 1991. **TI** Equilibrium with a Finite Number of

Pricing Functions. **AA** University of Bonn. **SR** Universitat Bonn Sonderforschungsbereich 303 - Discussion Paper: B-177; Sonderforschungsbereich 303 an der Universitat Bonn, Adenauerallee 24-42, D-5300 Bonn 1, GERMANY. **PG** 30. **PR** no charge. **JE** D51, D50. **KW** Monopolistic Competition.

AB This paper provides a more general approach to an equilibrium notion including some well-known models as partial cases (Arrow-Debreu model, some cases of Dierker-Guesnerie-Neuefeind model etc.). The structure of this model is like the Arrow-Debreu one, however, it has some essential differences. The economy deals here with a finite number of pricing rules. Given as continuous price functions on a compact set called, "a set of distributions of controlling parameters of the economy." The generalizing property of the model is explained in some examples and existence of an equilibrium is proved.

Ghose, Devajyoti

PD May 1991. **TI** Linear Aggregation in the Error-Correction Model. **AA** University of Arizona. **SR** University of Arizona Economics Working Paper: 91-12; Department of Economics, Bldg #23, University of Arizona, Tucson, AZ 85721. **PG** 38. **PR** $2 Canada and U.S.; $3 Overseas by air. **JE** C43, C13, C22. **KW** Linear Aggregation. Error Correction. Cointegration. Time Series.

AB In this paper, the problem of aggregation of integrated time series is addressed in the context of estimating the error correction model. It is seen that a cointegration condition is sufficient for consistent estimation of parameters of interest; no analogous condition is available in the stationary and ergodic case. Thus tests for aggregation bias originally designed for stationary data, can be misleading when applied to integrated data. this may account for over rejection of the null hypothesis of no aggregation bias, when the null is true.

Glenn, Andrew J.

PD June 1991. **TI** Modeling Liquidity: Implications for the Term Structure of Nominal Interest Rates. **AU** Glenn, Andrew J.; Salyer, Kevin D. **AA** Glenn: Vanderbilt University. Salyer: University of California at Davis. **SR** University of California at Davis Economics Department Working Paper: 386; Department of Economics, University of California at Davis, Davis, CA 95616-8578. **PG** 34. **PR** not available. **JE** E43, G12, G13, E32. **KW** Term Structure. Risk Premiums. Contingent Claims. Bonds.

AB The term structure of nominal interest rates is studied within a Svensson (1985) type cash-in-advance model. Specifically, we analyze whether the liquidity characteristics of nominal bonds imposed by the Svensson framework can help explain the behavior of the nominal term premia. Based on analytical and numerical analyses, it is demonstrated that the serial correlation properties of inflation and consumption growth do not affect the qualitative behavior of nominal interest rates and the term premia. Moreover, this model predicts that nominal term premia (both conditional and unconditional) are negative and, hence, is inconsistent with the empirical record.

Godsil, C. D.

PD April 1991. **TI** Combinatorics in Statistical Physics. **AU** Godsil, C. D.; Grotschel, M.; Welsh, D. J. A. **AA** Godsil: University of Waterloo, Canada. Grotschel: University of Augsburg. Welsh: University of Bonn. **SR** Universitat Bonn Sonderforschungsbereich 303 - Discussion Paper: 91690-OR; Sonderforschungsbereich 303 an der Universitat Bonn Adenauerallee 24-42, D5300 Bonn 1, GERMANY. **PG** 34. **PR** no charge. **JE** C60. **KW** Ising Model. Percolation Processes. Statistical Physics.

AB Combinatorics and physics interact in various ways. It is impossible to survey here all the connections. We concentrate in this chapter on statistical physics since several of the most basic problems in this area have a combinatorial flavor.

Goetzmann, William N.

PD November 1990. **TI** Do Winners Repeat? Patterns in Mutual Fund Behavior. **AU** Goetzmann, William N.; Ibbotson, Roger G. **AA** Columbia University. **SR** Columbia First Boston Series in Money, Economics and Finance Working Paper: FB-91-04; Columbia University, Graduate School of Business, First Boston Series, New York, NY 10027. **PG** 27. **PR** $5.00 academic and non-profit institution; $6.00 corporations (add $1.00 for foreign requests). **JE** G11, G12, G14. **KW** Mutual Funds. Portfolio Choice.

AB We find strong evidence that past mutual fund performance predicts future performance. The results are based upon monthly mutual fund returns over the period 1976-1988, and suggest that both "winners" and "losers" are likely to repeat, even when performance is adjusted for relative risk.

Gokey, Timothy C.

PD July 1991. **TI** Simplifying the International Capital Asset Pricing Model. **AA** University of Oxford. **SR** Oxford Applied Economics Discussion Paper: 117; Institute of Economics and Statistics, St. Cross Building, Manor Road, Oxford OX1 3UL, ENGLAND. **PG** 25. **PR** not available. **JE** G12, G15. **KW** Asset Pricing. International Markets.

AB Existing international asset pricing models neglect key aspects of the international environment, are unwieldy, or are impractical to apply with existing data. We provide here a single-beta simplification of the Adler and Dumas (1983) ICAPM which correctly prices international assets in the face of deviations from purchasing power parity under the restrictive but interesting assumption that aggregate relative risk aversion is equal across countries. We show the relationship between the simplified model and alternative approaches in the literature. Although our primary focus is on simplification, we also provide a generalization of the Adler-Dumas model to the case of a non-constant investment opportunity set.

Goldfeld, Stephen M.

PD April 1991. **TI** Effects of Bailouts, Taxes, and Risk-Aversion on the Enterprise. **AU** Goldfeld, Stephen M.; Quandt, Richard E. **AA** Princeton University. **SR** Princeton Financial Research Center Memorandum: 124; Financial Research Center, Department of Economics, Princeton University, Princeton, NJ 08544. **PG** 30. **PR** $3.00 U.S.; $6.00 foreign. **JE** O12, D20, D43. **KW** Bailouts. Subsidies. Taxes. Firm Behavior. Budget Constraints.

AB The paper introduces a model in which firms are taxed when their operating profits are positive and receive bailouts when they are negative. The amount of the bailout may depend on the quantity employed of a certain specialized type of labor that is well suited to securing subsidies. Expected profit maximization with risk neutrality leads to the conclusion that under the tax-subsidy scheme the firm's demand for inputs is greater than in the standard competitive case when the tax rate is lower than the subsidy rate; this conclusion may, however, depend on the amount of output uncertainty present in the model relative to the productivity of the technology. Various assumptions about the distribution of the random variable characterizing production uncertainty are explored and standard comparative statics results are obtained. The basic conclusions remain unchanged if the government follows a balanced budget policy.

Goldsbrough, David

PD March 1991. **TI** Globalization of Financial Markets and Implications for Pacific Basin Developing Countries. **AU** Goldsbrough, David; Teja, Ranjit. **AA** International Monetary Fund. **SR** International Monetary Fund Working Paper: WP/91/34; International Monetary Fund, Washington, DC 20431. **PG** 20. **PR** not available. **JE** O16, E44, F15, F21, F36. **KW** Developing Countries. Financial Integration. Capital Mobility. Current Account.

AB This paper analyzes the consequences of the growing interdependence of world financial markets for Pacific developing countries. Section I discusses trends in financial integration in the Pacific and the underlying movements in saving and investment. Section II seeks to quantify the increased capital mobility, in terms of rate of return differentials and the degree of correlation between savings and investment rates across countries. Section III focuses on policy implications of increasing integration, including the effectiveness of macroeconomic policy instruments, the usefulness of the current account as a target of policy, and the dangers of excessive taxation of financial intermediation.

Gomulka, Stanislaw

PD June 1991. **TI** The Causes of Recession Following Stabilization. **AA** London School of Economics. **SR** London School of Economics Centre for Economic Performance Discussion Paper: 33; Centre for Economic Performance, London School of Economics and Political Science, Houghton Street, London WC2A 2AE, UNITED KINGDOM. **PG** 19. **PR** no charge. **JE** O52, E32, E52. **KW** Monetary Policy. Poland. Economic Reform.

AB This paper attempts to answer the following two questions, both with reference to the response of the Polish economy to the stabilization and liberalization plan of January 1, 1990: why was the fall in output much larger and the inflation rate much higher than anticipated? Was the contraction of aggregate demand excessive? The paper argues that there is evidence for an excessively contractionary macroeconomic policy in the first quarter of 1990, but the policies in the second half of 1990 were, if anything, too expansionary. New interpretation is offered on the impact of devaluation on activity and on the reasons for understating the inflation rate.

Goodman, Allen C.

TI A Home of One's Own: Aging and Homeownership in the United States in the Late Nineteenth and Early Twentieth Centuries. **AU** Haines, Michael R.; Goodman, Allen C.

Gordon, David B.

TI In Search of the Liquidity Effect. **AU** Leeper, Eric M.; Gordon, David B.

Gordon, James

TI The Determinants and Efficiency of Local Authority Spending in England. **AU** Bayoumi, Tamim; Gordon, James.

PD June 1991. **TI** Structural Funds and the 1992 Program in the European Community. **AA** International Monetary Fund. **SR** International Monetary Fund Working Paper: WP/91/65; International Monetary Fund, Washington, DC 20431. **PG** 26. **PR** not available. **JE** F36, F33, F15, H77. **KW** European Community. Economic Integration. Monetary Integration. Policy Coordination.

AB Equity and efficiency justifications are found for the Community's Structural Funds which are discovered to be carefully targeted at depressed regions, albeit with some horizontal inequities. If Fund transfers displace national assistance, then they may be misallocated by being tied to regional indicators. The recent doubling in size enhances the Funds' ability to assist losers from the creation of a single European market in 1992. However, they fall short of constituting a safety net since they provide little automatic assistance to regions suffering negative shocks. Compensation of losers from the 1992 program require an overhaul of the present allocation system, if not a further increase in scale.

Gotur, Padma

PD April 1991. **TI** Bangladesh: Economic Reform Measures and the Poor. **AA** International Monetary Fund. **SR** International Monetary Fund Working Paper: WP/91/39; International Monetary Fund, Washington, DC 20431. **PG** 24. **PR** not available. **JE** O53, I32, I38, O15. **KW** Economic Reform. Poverty. Welfare Programs.

AB This paper assesses the impact on the poor of the economic reforms undertaken in Bangladesh under Fund-supported structural adjustment programs. It finds that program induced changes in production, employment, and incomes have benefited the poor, while the adverse impact of program induced price changes has been modest. However, as adjustment efforts are intensified under the current structural adjustment program, more pronounced short-term adverse effects might arise, requiring compensatory measures. The paper reviews special assistance programs for the poor, including those designed to mitigate the potential adverse effects of adjustment, noting that improved targeting would yield sizable fiscal savings that could be used for strengthening social programs.

Gourieroux, C.

TI Computation of Multipliers in Multivariate Rational Expectations Models. **AU** Broze, L.; Gourieroux, C.; Szafarz, A.

PD December 1990. **TI** Series Codependantes Application a l'Hypothese de Parite du Pouvoir d'Achat. **AU** Gourieroux, C.; Peaucelle, I. **AA** CEPREMAP. **SR** Unite de Recherche Document de Travail ENSAE/INSEE: 9104; INSEE, Unite de Recherche, 18 Bd. Adolphe Pinard, 75675 Paris Cedex 14, FRANCE. **PG** 31. **PR** no charge. **JE** C22. **KW** Purchasing Power Parity. Cointegration. Stationarity.

AB We extend the ideas of cointegration theory to the case of stationary series, by introducing the notions of persistence degree and of codependence vectors. These give the directions which are least sensitive to the shocks. Then these notions are applied to the study of relative purchasing power parity hypothesis between France and Germany. Paper in French.

PD February 1991. **TI** Classification d'Actifs Financiers Selon Leurs Performances. **AA** CEPREMAP. **SR** Unite de Recherche Document de Travail ENSAE/INSEE: 9108; INSEE, Unite de Recherche, 18 Bd. Adolphe Pinard, 75675 Paris Cedex 14, FRANCE. **PG** 33. **PR** no charge. **JE** G11, G12. **KW** Portfolio Choice. Asset Pricing. Capital Market.
AB The potential performance of an asset set is obtained by considering a portfolio chosen in order to minimize the risk submitted to constraints on cost and expected return. In this paper we are concerned with estimation and comparison of potential performances. We also introduce a notion of directional performance which measures the performance of an asset set in order to complete some other given investment. This analysis also introduces the concept of stratified structure of assets. Paper in French.

PD March 1991. **TI** Simulation Based Inference: A Survey with Special Reference to Panel Data Models. **AU** Gourieroux, C.; Monfort, A. **AA** Gourieroux: CEPREMAP. Monfort: INSEE. **SR** Unite de Recherche Document de Travail ENSAE/INSEE: 9106; INSEE, Unite de Recherche, 18 Bd. Adolphe Pinard, 75675 Paris Cedex 14, FRANCE. **PG** 37. **PR** no charge. **JE** C15, C13, C33. **KW** Maximum Likelihood. Asymptotic Properties. Simulation Methods.
AB In this article we study the recent developments of inference methods based on simulations. In particular, we discuss the Simulated Generalized Method of Moments, the Simulated Maximum Likelihood Method and the Simulated Pseudo Maximum Likelihood Methods. The asymptotic properties of the estimators are described when the number of observations n goes to infinity and we distinguish the case where the number H of simulations per observation is fixed from the case where this number also goes to infinity. In the former case the possible asymptotic bias is evaluated and, in the latter case, we carefully examine the consequences of the assumptions on the relative divergence rates of n and H. We also show how these methods apply to various contexts, in particular, to the case of panel data models.

PD April 1991. **TI** A General Framework for Factor Models. **AU** Gourieroux, C.; Monfort, A.; Renault, E. **AA** Gourieroux: CEPREMAP. Monfort: INSEE. Renault: GREMAQ. **SR** Unite de Recherche Document de Travail ENSAE/INSEE: 9107; INSEE, Unite de Recherche, 18 Bd. Adolphe Pinard, 75675 Paris Cedex 14, FRANCE. **PG** 59. **PR** no charge. **JE** C32, C13. **KW** Correlation Analysis. Portfolios. Factor Models.
AB The main aim of this paper is to define precisely the different notions of factors, to study their links and to explain how these different factors may be determined in practice. In particular we discuss the notion of endogenous factor and, from a statistical point of view, we link the search for factors with canonical correlation analysis. Several applications to financial problems and to the structural study of multivariate time series are considered.

Grandmont, Jean-Michel

PD July 1991. **TI** Transformations of the Commodity Space, Behavioral Heterogeneity and the Aggregation Problem. **AA** CEPREMAP, France and Yale University. **SR** Yale Cowles Foundation Discussion Paper: 987; Yale University, Cowles Foundation, Box 2125, Yale Station, New Haven, CT 06520. **PG** 47. **PR** $2.00. **JE** D12, D51, C43. **KW** Aggregation. Demand Functions. Revealed Preferences.
AB The aggregation problem in demand analysis and exchange equilibrium is studied by putting restrictions on the shape of the distribution of the agents' characteristics. This is done by exploiting the finite dimensional linear structure induced on demand functions by affine transformations of the commodity space (or household equivalence scales). Increasing the degree of behavioral heterogeneity in the household sector or more specifically, making the conditional distributions in each equivalence class of demand functions flat enough, has an important regularizing influence on aggregate budget shares: market demand has a negative dominant diagonal Jacobian matrix, aggregate excess demand has the gross substitutability property, on a large set of prices. These facts have strong consequences for the unicity and stability of equilibrium as well as for the prevalence of the weak axiom of revealed preference in the aggregate in a private ownership Walrasian exchange model.

Granger, Clive W. J.

PD April 1990. **TI** Developments in the Nonlinear Analysis of Economic Series. **AA** University of California, San Diego. **SR** Aarhus Institute of Economics Memo: 1990-13; Institute of Economics, University of Aarhus, Building 350, Universitetsparken, DK-8000 Aarhus C, DENMARK. **PG** 16. **PR** no charge. **JE** C22, C52, C13. **KW** Nonlinear Analysis. Specification Tests.
AB There seems to be a strong belief amongst economists that relationships between economic variables are nonlinear, production functions being an example. For a specific, given parametric relationship such as the Cobb-Douglas or CES production functions, standard econometric techniques provide methods of estimation of the parameters and asymptotic properties of these estimates. It is also possible to compare two alternative models and to select the best, using likelihood ratio or encompassing tests. However, as theory does not always provide a precise specification an important question might be whether or not the correct nonlinear specification has been achieved or whether there still remains some neglected nonlinearity in the estimated relationship. Most specification tests are for linear models and consider what variables to include in the model and what lags to use.

TI Seasonal Cointegration: The Japanese Consumption Function 1961.1-1987.4. **AU** Engle, R. F.; Granger, Clive W. J.; Hylleberg, Svend; Lee, H. S.

PD June 1990. **TI** Positively Related Processes and Cointegration. **AA** University of California, San Diego. **SR** Aarhus Institute of Economics Memo: 1990-16; Institute of Economics, University of Aarhus, Building 350, Universitetsparken, DK-8000 Aarhus C, DENMARK. **PG** 10. **PR** no charge. **JE** C22, C13, C11. **KW** Cointegration. Time Series Model. Markov Process.
AB A Markov process generated by (X(t)=PX(t-1)+e(t)) with P greater than 0 may well be considered to be a reasonable model in many situations, such as when modeling a group of interest rates or exchange rates or highly related commodity prices or stock prices. A Bayesian may want to impose priors on P making it positive. The results found here indicate that in the long-run a very simple structure arises from such a model

and, if the dominant eigenvalue of P is greater than or equal to 1, very special forms of cointegration arise. The fact that the processes are also associated allows additional properties to be derived.

Green, Richard

PD March 1991. **TI** Competition in the British Electricity Spot Market. **AU** Green, Richard; Newbery, David M. G. **AA** University of Cambridge. **SR** University of Cambridge DAE Working Paper: 9108; Department of Applied Economics, University of Cambridge, Sidgwick Avenue, Cambridge CB3 9DE, UNITED KINGDOM. **PG** 26. **PR** $4.00 (2.00 pounds), checks payable to University of Cambridge. **JE** L13, L94, L23. **KW** Electricity. Bertrand Competition. Supply Functions.

AB The British electricity supply industry has, with the exception of Nuclear Electric, now been privatized. Bulk supplies of electricity are traded between two dominant generators and many suppliers in an unregulated "pool." The generators submit a supply schedule of prices for each generating set and receive the market clearing price, which varies with demand over time. It has been claimed that such Bertrand competition should be highly competitive, but we show that the Nash equilibrium in supply schedules implies a high mark-up on marginal cost and very substantial deadweight losses.

Greene, Joshua

TI Monetary Growth and Exchange Rate Depreciation as Causes of Inflation in African Countries: An Empirical Analysis. **AU** Canetti, Elie; Greene, Joshua.

Gregory, Allan W.

PD May 1991. **TI** Testing for Cointegration in Linear Quadratic Models. **AA** Queen's University. **SR** Queen's Institute for Economic Research Discussion Paper: 811; Department of Economics, Queen's University, Kingston, Ontario, CANADA K7L 3N6. **PG** 35. **PR** $3.00 Canada; $3.00 U.S.; $3.50 foreign. **JE** C12, C22, C15. **KW** Cointegration. Time Series. Monte Carlo Model. Finite Sample.

AB This paper evaluates the finite sample performance of various tests for cointegration by Monte Carlo methods. The evaluation takes place within the linear quadratic model. The results indicate sharp differences in the tests to detect cointegrating relations especially when the cost of adjustment term and the number of regressors are large. Although no single test dominates for all the parameter settings considered, overall the augmented Dickey-Fuller and the Z(alpha) test of Phillips (1987) seem the most reliable in terms of test size and power.

Grilli, Vittorio

TI The Benefits of Crises for Economic Reforms. **AU** Drazen, Allan; 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: Department of Economics, Birkbeck College, London. Roubini: Department of Economics, Yale University. **SR** CEPR Discussion Paper: 566; Centre for Economic Policy Research, 6 Duke of York Street, London SW1Y 6LA, United Kingdom. **PG** 56. **PR** Pounds 3.00 or $5.00. **JE** 314, 431. **KW** Monetary Policy. Financial Intermediation. International Transmission.

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 modelling 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.

Grossman, Herschel I.

PD April 1991. **TI** Monetary Economics: A Review Essay. **AA** Brown University. **SR** Brown University Department of Economics Working Paper: 91-14; Department of Economics, Brown University, Providence, Rhode Island 02912. **PG** 34. **PR** not available. **JE** E41, E51, E13. **KW** Money. Medium of Exchange. Monetary Economics. Currency.

AB In this essay I define money to be whatever objects serve as generally acceptable media of exchange and I define monetary economics to be the study of the causes and economic consequences of the monetization of exchange -- that is, of the use of media of exchange. These definitions lead me to specify the distinctive objectives of monetary economics to be to understand (1) the monetization of exchange and its relation to the technologies of production and of exchange, (2) the form that money takes and, especially, the viability of fiat money, (3) the determination and significance of the real value of units of money, and (4) the relation between the nominal quantity of money and aggregate economic activity.

PD June 1991. **TI** A Theory of War Finance. **AU** Grossman, Herschel I.; Han, Taejoon. **AA** Brown University. **SR** Brown University Department of Economics Working Paper: 91-18; Department of Economics, Brown University, Providence, Rhode Island 02912. **PG** 18. **PR** not available. **JE** H56, H63. **KW** Government Spending. War. Military Spending. Consumption.

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.

Grotschel, M.

TI Combinatorics in Statistical Physics. **AU** Godsil, C. D.; Grotschel, M.; Welsh, D. J. A.

Guidotti, Pablo E.

TI Management of the Nominal Public Debt Theory and Applications. **AU** Calvo, Guillermo A.; Guidotti, Pablo E.

TI Speculative Attacks. **AU** Calvo, Guillermo A.; Guidotti, Pablo E.

Guiso, Luigi

PD August, 1991. **TI** Why is Italy's Savings Rate So High? **AU** Guiso, Luigi; Jappelli, Tullio; Terlizzese, Daniele. **AA** Guiso: Research Department, Banca d'Italia. Jappelli: Instituto di Studi Economici, Napoli. Terlizzese: Research Department, Banca d'Italia. **SR** CEPR Discussion Paper: 572; Centre for Economic Policy Research, 6 Duke of York Street, London SW1Y 6LA, United Kingdom. **PG** 63. **PR** Pounds 3.00 or $5.00. **JE** O52, G21. **KW** Saving. Capital Market Imperfections.

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 with comparable levels 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. 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. The results suggest that capital market imperfections are the likely source of the high Italian savings rate and of the strong saving-growth correlation. We consider the potential of the public and informal sectors, bequest and the slope of the earnings profile, but reject these as explanations of Italian savings behaviour.

Gul, Faruk

PD May 1991. **TI** A Bound on the Proportion of Strategy Equilibria in Generic Games. **AU** Gul, Faruk; Pearce, David G.; Stacchetti, Ennio. **AA** Gul and Stacchetti: Stanford University. Pearce: Yale University. **SR** Yale Cowles Foundation Discussion Paper: 981; Yale University, Cowles Foundation, Box 2125, Yale Station, New Haven, CT 06520. **PG** 11. **PR** $2.00. **JE** C70. **KW** Normal Form. Mixed Strategy. Game Theory.

AB In a generic finite normal form game with 2(alpha) + 1 Nash equilibria, at least alpha of the equilibria are nondegenerate mixed strategy equilibria (that is, they involve randomization by some players).

Gulde, Anne-Marie

PD May 1991. **TI** Sri Lanka: Price Changes and the Poor. **AA** International Monetary Fund. **SR** International Monetary Fund Working Paper: WP/91/46; International Monetary Fund, Washington, DC 20431. **PG** 22. **PR** not available. **JE** I32, I38, O15. **KW** Poverty. Welfare Programs. Economic Development.

AB This paper examines the short-run impact of Sri Lanka's recent structural adjustment program on the poorest segments of society. While the ultimate goal of all macroeconomic adjustment programs is to overcome structural rigidities and put the economy on a sustainable growth path, some of the measures implemented, such as the liberalization of food and energy prices, cuts in subsidies and other budgetary spending, and exchange rate changes, may cause significant increases in relative prices faced by the poor. On the other hand, there are offsetting income effects even in the short-run, such as adjustments in wages and output prices and retargeting of subsidies.

Gupta, Sanjeev

PD May 1991. **TI** Commodity Booms and Government Expenditure Responses. **AU** Gupta, Sanjeev; Miranda, Kenneth. **AA** International Monetary Fund. **SR** International Monetary Fund Working Paper: WP/91/44; International Monetary Fund, Washington, DC 20431. **PG** 31. **PR** not available. **JE** E62, E63, E65, O57. **KW** Government Spending. Commodities. Developing Countries.

AB This paper develops a model incorporating asymmetric government expenditure behavior in response to a windfall revenue gain occasioned by a transitory commodity boom. The model is used to illustrate the transitional dynamics of a stylized economy during the boom period and the nature of the macroeconomic disequilibria which emerge in the post-boom period. Country case studies of Sri Lanka, Malaysia, and Kenya support the model's predictions and the protracted nature of adjustment following the waning of the boom.

Haaland, Jan I.

PD August, 1991. **TI** Market Integration, Competition and Welfare. **AU** Haaland, Jan I.; Wooton, Ian. **AA** Haaland: Institute of Economics, Norway. Wooton: Department of Economics, University of Western Ontario. **SR** CEPR Discussion Paper: 574; Centre for Economic Policy Research, 6 Duke of York Street, London SW1Y 6LA, United Kingdom. **PG** 32. **PR** Pounds 3.00 or $5.00. **JE** F12, F15, L13. **KW** Market Integration. Segmented Markets. Welfare. Competition. Trade Biases.

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 numberical 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.

Haas, Richard D.

TI Price Pressure Gaps: An Application of P* Using Korean Data. **AU** Corker, Robert J.; Haas, Richard D.

Haddad, Lawrence

PD July 1991. **TI** Gender Aspects of Household Expenditures and Resource Allocation in the Cote D'Ivoire. **AU** Haddad, Lawrence; Hoddinott, John. **AA** Haddad: International Food Policy Research Institute, Washington, D.C. Hoddinott: Trinity College and Institute of Economics and Statistics. **SR** Oxford Applied Economics Discussion Paper: 112; Institute of Economics and Statistics, St. Cross Building, Manor Road, Oxford OX1 3UL, ENGLAND. **PG** 64. **PR** not available. **JE** C12, J16, I31. **KW** Gender. Expenditures. Child Development. Consumer Economics.

AB This paper uses a household survey from the Cote d'Ivoire to examine two interrelated hypotheses: (1) do women spend cash income differently than men (and with demonstrable consequences for child anthropometric status); and (2) are there gender differences in the allocation of household resources? We find that doubling women's share of household cash income causes the budget share of food to rise by 2.8% and a fall of 27 and 11% respectively in the budget shares of alcohol and cigarettes. Further, it leads to a 1% improvement in child height-for-age. Using Deaton's outlay equivalent analysis, we do not find gender differences in the allocation of household resources. However, fixed effects estimation of child height-for-age indicates that raising women's share of cash income causes a larger increase in boys anthropometric status relative to girls.

Haines, Michael R.

PD January 1991. **TI** A Home of One's Own: Aging and Homeownership in the United States in the Late Nineteenth and Early Twentieth Centuries. **AU** Haines, Michael R.; Goodman, Allen C. **AA** Haines: Colgate University. Goodman: Wayne State University. **SR** National Bureau of Economic Research Working Paper Series on Historical Factors and Long-Run Growth: 21; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PG** 16. **PR** $2.00. **JE** N31, R31. **KW** Real Estate. Homeowners. Households. Urban Economics.

AB One of the principal types of wealth accumulation in the United States has been real property, especially in the form of homes as the society became more urban and less agricultural. At present, almost two-thirds of all American households reside in owner-occupied structures. The present paper explores this phenomenon for the late nineteenth and early twentieth centuries from the standpoint of property accumulation over the life course. Age patterns of homeownership for urban and rural nonfarm households are the central concern. Drawing on micro samples of the 1865 New York State census and the 1900 United States census, micro data on the 6,809 worker families residing in the United States in the 1889/90 U.S. Commissioner of Labor Survey, and published data from the 1890 and 1930 United States censuses, the incidence of homeownership by age of household head is described.

Haldrup, Niels

PD September 1990. **TI** Tests for Unit Roots with a Maintained Trend when the True Data Generating Process is a Random Walk with Drift. **AA** University of Aarhus. **SR** Aarhus Institute of Economics Memo: 1990-22; Institute of Economics, University of Aarhus, Building 350, Universitetsparken, DK-8000 Aarhus C, DENMARK. **PG** 53. **PR** no charge. **JE** C12, C22. **KW** Unit Root. Asymptotic Theory. Brownian Motion. Time Series Model.

AB The present paper is concerned with the distributional properties of Dickey-Fuller type tests for unit roots when the true DGP is a random walk with drift and the auxiliary regression allows for both a fitted intercept and a fitted trend. The necessity of this specification in order to discriminate between integrated time series with drift and trend stationary processes is common practice in the literature then the tests based on the intercept t-statistic as proposed by Dickey and Fuller (1981) and Phillips and Perron (1988) are actually inconsistent. When the trend regressor is not mean corrected the tests are shown to be consistent and new critical values are tabulated. A Phillips-type correction to avoid the influence of nuisance parameters is also suggested. Secondly, the limiting distribution of the trend t-statistic is shown to be the mirror image of the t-statistic of parameter to the time series lagged one period.

PD August 1991. **TI** Integration, Near-Integration and Deterministic Trends. **AU** Haldrup, Niels; Hylleberg, Svend. **AA** University of Aarhus. **SR** Aarhus Institute of Economics Memo: 1991-15; Institute of Economics, University of Aarhus, Building 350, Universitetsparken, DK-8000 Aarhus C, DENMARK. **PG** 42. **PR** no charge. **JE** C12, C15, C22. **KW** Unit Roots. Brownian Motion. Asymptotic Theory. Time Series Model. Cointegration.

AB In this paper we seek to analyze the implications for estimation and inference within the Dickey-Fuller class of models when time series contain a root local to unity. We extend the results previously obtained in the literature to models with maintained deterministic components and especially a focus on the ability to conduct inference on the deterministic elements. The approach undertaken also helps bridge the discontinuity in limiting distributions that usually applies when roots lie exactly on the unit circle, as opposed to roots strictly less than unity. We also define the notion of a local trend which may be considered a deterministic analogue of the concept of near-integration. This concept enables us to unify the distributional discontinuities that are often observed asymptotically, when integrated time series, in addition, contain a deterministic trend. The paper is completed by simulating some of the distributions suggested by asymptotic theory to see how well these approximate the exact finite sample distributions.

PD August 1991. **TI** Testing for Double Unit Roots. **AA** University of Aarhus. **SR** Aarhus Institute of Economics Memo: 1991-20; Institute of Economics, University of Aarhus, Building 350, Universitetsparken, DK-8000 Aarhus C, DENMARK. **PG** 34. **PR** no charge. **JE** C12, C15, C22. **KW** Unit Roots. Brownian Motion. Semiparametric Tests. Asymptotic Theory. Time Series Model.

AB The general properties of time series integrated of order two are investigated. We extend the existing literature on spurious detrending of I(1)-series to processes with double unit roots and the behavior of the well-known parametric and semi-parametric Dickey-Fuller type of tests are examined under the maintained assumption that the underlying process is I(2). Some new semi-parametric tests for the number of unit roots are developed. These appear to be straightforward generalizations of the tests constructed by Phillips (1987). The new tests are applied to a number of time series that are potentially integrated of order two.

Hammour, Mohamad L.

TI Long-Run Effects of Business Cycles. **AU** Gali, Jordi; Hammour, Mohamad L.

PD May 1991. **TI** Overhead Costs and Economic Fluctuations. **AA** Columbia University. **SR** Columbia Department of Economics Working Paper: 547; Department of Economics, Columbia University, New York, New York 10027. **PG** 29. **PR** $5.00. **JE** D24, E23, E32. **KW** Macroeconomic Model. Production. Cost Function.

AB This paper explores some macroeconomic consequences of overhead costs. Imperfectly competitive firms are assumed to have a choice between two ways of producing their goods. One is more productive at the margin than the other, but requires more overhead workers. This will be true if firms can choose between operating with one or two shifts, assembly lines, or existing plants which require overhead costs to run. A strategic complementarity arises in the economy: An increase in the proportion of firms that operate with high overhead increases output and aggregate demand, and makes the high-overhead technology more attractive. As a result, the economy could either converge to a high-level equilibrium where overhead levels, employment and output are high, or to a low-level equilibrium where they are low. Any position in between is unstable, and may lead to endogenous economic fluctuations along a "limit cycle," where sectors move together between the high-and low-level positions. Deterministic and stochastic "animal spirits" versions of the model are "calibrated," and exhibit fluctuations with business cycle frequencies and amplitudes.

Han, Taejoon

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

Haque, Nadeem U.

PD December 1990. **TI** Capital Mobility in Developing Countries -- Some Empirical Tests. **AU** Haque, Nadeem U.; Montiel, Peter J. **AA** International Monetary Fund. **SR** International Monetary Fund Working Paper: WP/90/117; International Monetary Fund, Washington, DC 20431. **PG** 12. **PR** not available. **JE** O57, F21, F14. **KW** Developing Countries. Capital Mobility. Stabilization Policy.

AB The degree of capital mobility in developing economies is seldom estimated, even though it is widely recognized to be an important element in determining the effects of stabilization policies. Instead, an economy is assumed to be open or closed mainly on grounds of analytical convenience. This paper develops a simple approach to modeling and measuring the degree of financial openness which is applicable to developing economies. Empirical estimation using data from a large number of developing countries suggests that the effective degree of capital mobility in such economies may be higher than is commonly assumed.

TI A General Equilibrium Model with Informal Financial Markets. **AU** Agenor, Pierre-Richard; Haque, Nadeem U.; Montiel, Peter J.

Harsaae, Erik

PD April 1990. **TI** The Use of the Hermeneutical Method in Economics. **AA** University of Aarhus. **SR** Aarhus Institute of Economics Memo: 1990-9; Institute of Economics, University of Aarhus, Building 350, Universitetsparken, DK-8000 Aarhus C, DENMARK. **PG** 33. **PR** no charge. **JE** B41, F02. **KW** Natural Science. Ecology. Economic Methodology. Ecosystem.

AB The main theme of the paper is an argument demonstrating that the use of a hermeneutical method in Economics does not represent an antiscientific method of attack. Inductive method in Economics is concerned with a detailed description of a given state of a national or the global economic system. It is also argued that economic research ought to study the relations between eco-systems and the macroeconomic regulative system rather than to go on regarding the latter system as autonomous. If Economics is unscientific, this is due to its lack of foundations in applied natural science and not to any neglect of modeling itself on theories like Newtonian Physics.

PD May 1990. **TI** On Keynesian and Walrasian Macro-Economics. **AA** University of Aarhus. **SR** Aarhus Institute of Economics Memo: 1990-12; Institute of Economics, University of Aarhus, Building 350, Universitetsparken, DK-8000 Aarhus C, DENMARK. **PG** 165. **PR** no charge. **JE** E12, B22. **KW** Keynes. Disequilibrium. Macroeconomics. Economic Thought.

AB In this essay different themes are collated with the aim to show the implicit disequilibrium economics inherent by Keynes to equilibrium arguments in "General Theory." Harrod's growth model shows this, and the problems of Hicks' ISLM model are due to its dependence on equilibrium. The German economist Carl Fohl has long ago shown that the lesson given by Keynes in "General Theory" might have been stated by means of the disequilibrium concepts in "Treatise on Money." Fohl's model is based on the Schumpeterian innovation model. More recent works by Robert Clower and Axel Leijonhufvud are discussed with references to Oskar Lange and Schumpeter. The author feels that although he has read a lot of pages to collect the material commented on in the essay, his readings do not in any way cover the field; that similar views may have been better presented elsewhere unknown to him; but that the essay in spite of its shortcomings might still be of some interest to other economists.

PD October 1990. **TI** On Working Models of Adapting Economic Systems. **AA** University of Aarhus. **SR** Aarhus Institute of Economics Memo: 1991-2; Institute of Economics, University of Aarhus, Building 350, Universitetsparken, DK-8000 Aarhus C, DENMARK. **PG** 119. **PR** no charge. **JE** B22, B41, E12. **KW** Adaptation. Ecology. Evolutionary Models. Economic Methodology.

AB The main idea of the essay is to argue that traditional economic theory has not made sufficient allowance for the importance of the natural conditions of economic production. The market system is here seen as embedded in the global ecological system. Changes in this larger system are an important exogenous influence, and to depend on a closed economic model may in some contexts be unsatisfactory. Although the author accepts the validity of the Keynesian diagnosis of the workings of the economic system, the regulation of effective demand is no longer sufficient.

PD June 1991. **TI** Thoughts on Economic Growth. **AA** University of Aarhus. **SR** Aarhus Institute of Economics Memo: 1991-16; Institute of Economics, University of Aarhus, Building 350, Universitetsparken, DK-8000 Aarhus C, DENMARK. **PG** 16. **PR** no charge. **JE** O41, O47, O33. **KW** Productivity. Technical Progress. Growth Model. Technological Change.

AB The reader is supposed to be familiar with the theory of growth. The aim of the paper is 1) to underline the important difference between the models by Harrod and Solow, and the irrelevance of the latter as a model of the actual economic process, 2) to present an argument refuting Marx's hypothesis of the immiseration of labor. For this purpose the analysis of productivity by Jean Fourastie (1952) proves very relevant and also supports that given by Schumpeter in 1911.

Hartwick, John M.

PD June 1991. **TI** Notes on Economic Depreciation of

Natural Resource Stocks and National Accounting. **AA** Queen's University. **SR** Queen's Institute for Economic Research Discussion Paper: 818; Department of Economics, Queen's University, Kingston, Ontario, CANADA K7L 3N6. **PG** 42. **PR** $3.00 Canada; $3.00 U.S.; $3.50 foreign. **JE** H61, Q31, Q32. **KW** National Accounts. Depletion Value. Natural Resources.

AB We consider numerous variations on the theme that stock diminution weighted by marginal rent should be netted from basic NNP to account for economic depreciation of natural stocks. Mineral discoveries, durable exhaustible resources, and mining pollution effects are examined. Capital appreciation from transforming land in virgin forest to land in agriculture is considered. Attention is paid to second best prices.

Hasbrouck, Joel

TI International Asset Allocation with Time Varying Risk: An Analysis and Implementation. **AU** Cumby, Robert; Figlewski, Stephen; Hasbrouck, Joel.

Heal, Geoffrey M.

TI Existence of Equilibrium in Regular Economies with Incomplete Markets. **AU** Chichilinsky, Graciela; Heal, Geoffrey M.

TI Competitive Equilibrium in Sobolev Spaces with Unbounded Short Sales. **AU** Chichilinsky, Graciela; Heal, Geoffrey M.

TI Necessary and Sufficient Conditions for Pareto Efficiency of Equilibrium in Non-Convex Economies. **AU** Chichilinsky, Graciela; Heal, Geoffrey M.

PD May 1991. **TI** Welfare Dynamics in Securities Markets with Increasing Numbers of Traders. **AA** Columbia University. **SR** Columbia First Boston Series in Money, Economics and Finance Working Paper: FB-91-07; Columbia University, Graduate School of Business, First Boston Series, New York, NY 10027. **PG** 13. **PR** $5.00 academic and non-profit institution; $6.00 corporations (add $1.00 for foreign requests). **JE** G12, G14. **KW** Securities. Liquidity. Competitive Equilibrium.

AB I show that the entry of new traders into a perfectly competitive securities market that is initially in competitive equilibrium leads to a series of competitive equilibria each of which is Pareto superior to the previous one. The proof is based on the classical welfare properties of competitive equilibria.

Hell, Pavol

PD December 1990. **TI** The Core of a Graph. **AU** Hell, Pavol; Nesetril, Jaroslav. **AA** Hell: Simon Fraser University. Nesetril: Charles University, Prague. **SR** Universitat Bonn Sonderforschungsbereich 303 - Discussion Paper: 90677-OR; Sonderforschungsbereich 303 an der Universitat Bonn Adenauerallee 24-42, D5300 Bonn 1, GERMANY. **PG** 14. **PR** no charge. **JE** C60. **KW** Graph Theory. Graph Cores. Incomparable Cores. Infinite Graph.

AB In this note we summarize some principal properties of graph cores. We encountered this concept, related to graph homomorphisms and rigidity, in the late sixties, while we were both students of Gert Sabidussi. The concept has since proved useful on several occasions; it was also studied, under different names, and from different points of view.

Henderson, J. Vernon

PD July 1991. **TI** Community Choice of Revenue Instruments. **AA** Brown University. **SR** Brown University Department of Economics Working Paper: 91-19; Department of Economics, Brown University, Providence, Rhode Island 02912. **PG** 32. **PR** not available. **JE** H24, H71. **KW** Taxes. Local Governments. Property Taxes.

AB While property taxes are still viewed in theoretical work as the key source of locally raised revenue (e.g., see Mieszkowski and Zodrow, 1989 or Krelove, 1991), in fact, overall in the U.S. property taxes account for only 38% of locally raised revenues, whereas nontax sources (especially user charges and utility revenues) account for 48% of all locally raised revenues. The use of property taxes varies by type of government, generally being low in municipalities and high in school districts. It also varies by state, being very high in Massachusetts, but low in California. Moreover, other taxes (sales and income) play almost no role in some states (Massachusetts) but play a significant role (26% of locally raised revenues) in New York. However, generally the alternative to property taxation is nontax revenues. And of course, there is also tremendous variation within states by city and county. Why does property tax usage vary across localities?.

Hermalin, Benjamin E.

PD May 1991. **TI** Contracting between Sophisticated Parties: A More Complete View of Incomplete Contracts and Their Breach. **AU** Hermalin, Benjamin E.; Katz, Michael L. **AA** University of California, Berkeley. **SR** University of California at Berkeley Working Paper in Economics: 91-165; IBER 156 Barrows Hall, University of California at Berkeley, Berkeley, CA 94720. **PG** 38. **PR** $3.50 plus applicable sales tax. **JE** L14, K12, D82. **KW** Contracts. Asymmetric Information. Contract Law.

AB We consider the design of sales contracts when, at the time the contract is signed, there is uncertainty about the seller's cost and the buyer's valuation for the good to be traded. The distribution of these variables depends on the parties' relation-specific investments. We show that efficient investment and trade are attainable under a number of information structures if the parties can renegotiate after the uncertainty is resolved. This renegotiation is structured by the initial contract in a natural way: one party essentially names a price and the other decides whether to trade at that price. Our results suggest that specific performance - court-mandated compliance with the contract - is the optimal remedy for breach of contract. We further demonstrate that with ex ante symmetrically informed parties, however, there may be a benefit to restrictions, as we illustrate through examples.

PD June 1991. **TI** Managerial Preferences Concerning Risky Projects. **AA** University of California, at Berkeley. **SR** University of California at Berkeley Working Paper in Economics: 91-168; IBER 156 Barrows Hall, University of California at Berkeley, Berkeley, CA 94720. **PG** 18. **PR** $3.50 plus applicable sales tax. **JE** G31, M21. **KW** Management. Reputation. Business Investment.

AB Previous literature on managerial career concerns has tended to focus on situations in which a risk averse manager, who is concerned about his reputation, must choose between undertaking a risky project or not undertaking it. The success of the project is assumed to be informative about the manager's abilities. To avoid risk to his reputation, the manager chooses

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not to undertake the project. Although this literature has revealed a number of important insights, it can create a somewhat erroneous impression concerning managerial preferences for risky projects. In particular, one might come to believe that managers will prefer less risky projects to more risky projects. As this note shows, however, risk averse managers with career concerns can easily have exactly the opposite preferences. The intuition is that the riskier the project, the less weight it receives when the managerial labor market updates its beliefs about a manager's ability, and hence the lower the variance of the market's posterior estimate.

Hewitt, Daniel P.

PD May 1991. **TI** Military Expenditure: International Comparison of Trends. **AA** International Monetary Fund. **SR** International Monetary Fund Working Paper: WP/91/54; International Monetary Fund, Washington, DC 20431. **PG** 42. **PR** not available. **JE** H56, O11. **KW** Military Spending. Economic Development. Government Expenditures.
AB This paper analyzes trends in world military expenditure by examining the shares of different country groups and the ratio to GDP of individual nations. The coverage is military expenditures in 125 countries from 1972 to 1988. The study also compares military expenditures as a proportion of central government expenditures; analyzes the budgetary trade-off between military, social, and development expenditures; and discusses the impact of military expenditures on economic development.

PD May 1991. **TI** Military Expenditure: Econometric Testing of Economic and Political Influences. **AA** International Monetary Fund. **SR** International Monetary Fund Working Paper: WP/91/53; International Monetary Fund, Washington, DC 20431. **PG** 31. **PR** not available. **JE** H56, O57. **KW** Military Spending.
AB Econometric results from an analysis of the determinants of military expenditure in 125 countries during 1972-88 are presented. The dependent variable is the ratio of military expenditure to GDP; included among the explanatory variables are economic and financial indicators, political variables summarizing the form of government, and demographic and geographic features of nations. The results strongly confirm the importance of these variables in explaining cross-country differences in levels of military expenditure.

Hillier, Brian

PD April 1991. **TI** Government Policy, Commitment Dominance and Prisoner's Dilemma. **AU** Hillier, Brian; Klein, Daniel B.; O'Flaherty, Brendan. **AA** Hillier: University of Liverpool. Klein: University of California, Irvine. O'Flaherty: Columbia University. **SR** Columbia Department of Economics Working Paper: 538; Department of Economics, Columbia University, New York, New York 10027. **PG** 28. **PR** $5.00. **JE** E61, D72. **KW** Policy Coordination. Governments.
AB All Paretian governments will need to make commitments in order to carry out their optimal plans only if some government plan makes citizens play a prisoners' dilemma game.

Hoddinott, John

TI Gender Aspects of Household Expenditures and Resource Allocation in the Cote D'Ivoire. **AU** Haddad, Lawrence; Hoddinott, John.

Holden, Craig W.

PD April 1991. **TI** Risk Aversion, Imperfect Competition, and Long-Lived Information. **AU** Holden, Craig W.; Subrahmanyam, Avanidhar. **AA** Holden: Indiana University. Subrahmanyam: Columbia University. **SR** Columbia First Boston Series in Money, Economics and Finance Working Paper: FB-91-06; Columbia University, Graduate School of Business, First Boston Series, New York, NY 10027. **PG** 13. **PR** $5.00 academic and non-profit institution; $6.00 corporations (add $1.00 for foreign requests). **JE** D44, D43, L13. **KW** Auctions. Intertemporal Model.
AB This paper develops an intertemporal auction model in which strategic, risk averse, informed traders exploit their long-lived informational advantage. It is shown that both monopolistic and competing informed traders choose to exploit rents rapidly, causing market depth to be low in the initial periods and high in later periods, and causing information to be revealed rapidly, unlike in the case of a risk neutral monopolist considered by Kyle (1985).

Holler, Manfred J.

PD May 1990. **TI** On Costs and Benefits of Voting: An Analysis of the VW Case. **AA** University of Aarhus. **SR** Aarhus Institute of Economics Memo: 1990-14; Institute of Economics, University of Aarhus, Building 350, Universitetsparken, DK-8000 Aarhus C, DENMARK. **PG** 22. **PR** no charge. **JE** D21, C91, D71. **KW** Public Choice. Voting. Experimental Economics.
AB Setting out from a brief discussion of "Paradox of Not Voting," This paper discusses the costs and benefits of the VW voting on the distribution of 1 million Swiss Francs and an experimental duplication of this game at Aarhus University.

PD February 1991. **TI** Fair and Efficient Public Pricing: An Application to Sewage Farming. **AA** University of Aarhus. **SR** Aarhus Institute of Economics Memo: 1991-3; Institute of Economics, University of Aarhus, Building 350, Universitetsparken, DK-8000 Aarhus C, DENMARK. **PG** 23. **PR** no charge. **JE** H41, L95, K23, D62. **KW** Prices. Natural Monopoly. Externalities. Public Goods.
AB This paper analyzes implications of prices with respect to distribution and allocation for a case of positive externalities in sewage farming. Core, Shapley value, the nucleolus, and the public good index are applied to derive fair stable and efficient pricing rules.

PD February 1991. **TI** Fighting Pollution when Decisions are Strategic. **AA** University of Aarhus. **SR** Aarhus Institute of Economics Memo: 1991-4; Institute of Economics, University of Aarhus, Building 350, Universitetsparken, DK-8000 Aarhus C, DENMARK. **PG** 18. **PR** no charge. **JE** D78, Q28. **KW** Pollution. Policy Analysis.
AB In this paper we analyze anti-pollution policies in a 2-by-2 game played between a "polluter" and the "police" in which the payoffs can be manipulated by an exogenous third player called the "policy-maker." We show that the efficiency of the policies may depend on whether the players of the 2-by-2 game choose Nash equilibrium strategies or prefer maximin.

PD June 1991. **TI** Decision on Strategic Markets - An Experimental Study. **AU** Holler, Manfred J.; Host, Viggo; Kristensen, Kai. **AA** Holler and Host: University of Aarhus. Kristensen: Aarhus School of Business. **SR** Aarhus Institute of Economics Memo: 1991-10; Institute of Economics, University of Aarhus, Building 350, Universitetsparken, DK-

8000 Aarhus C, DENMARK. **PG** 21. **PR** no charge. **JE** D71, D81, C91, C72. **KW** Game Theory. Rational Choice. Entrepreneur.

AB The paper analyzes the decision behavior of both college students of business and economics and professional business managers in relation to a marketing problem. Three data sets are obtained: a combined set from the Universities of Munich and Aarhus, one from the Aarhus School of Business, and one created from the population of the 2800 largest companies in Denmark. The three data sets are used to test game theoretical models of decision-making behavior and to propose an alternative model of the behavior using a number of explanatory variables relating to the decision-maker. The results show that traditional game theory is not sufficient to explain the given responses and that the decisions are clearly related to a number of personal factors such as self-evaluation, intellectual level, educational background, and experience. The material sorts out two types of decision-makers: the entrepreneur and the bureaucrat. The entrepreneur has got a low risk aversion and is willing to gamble, while the bureaucrat almost always chooses maximin strategies.

Holzmann, Robert

PD January 1991. **TI** Budgetary Subsidies in Centrally Planned Economies in Transition. **AA** University of Vienna. **SR** International Monetary Fund Working Paper: WP/91/11; International Monetary Fund, Washington, DC 20431. **PG** 28. **PR** not available. **JE** P35, P23, P21. **KW** Market Economy. Economic Reform. Subsidies. Public Finance.

AB This paper analyzes budgetary subsidy policy issues that arise when centrally planned economies move toward a market economy. The analysis suggests that subsidy reduction, to be successful, has to be embedded into an overall economic reform program and that during the program's execution, former implicit subsidies are likely to become budgetized. Furthermore, additional pressure on the budget, caused by enterprise restructuring or the introduction of social safety net provisions, necessitates careful policy design. Comprehensive budgetary reform is required to prevent budgetary slippages during the transition process.

Hoover, Kevin D.

PD July 1991. **TI** Post Hoc Ergo Propter Hoc Once More: An Evaluation of "Does Monetary Policy Matter?" in the Spirit of James Tobin. **AU** Hoover, Kevin D.; Perez, Stephen J. **AA** University of California, Davis. **SR** University of California at Davis Research Program in Applied Macro and Macro Policy: 74; Department of Economics, University of California at Davis, Davis, CA 95616-8578. **PG** 50. **PR** no charge. **JE** E32, E52. **KW** Causality. Monetary Policy. Business Cycle.

AB Christina and David Romer's paper, "Does Monetary Policy Matter?", attempts both to establish the efficacy of monetary policy and to illustrate the so-called "narrative" approach to causal inference. We demonstrate that the narrative approach will not sustain causal inference. In the Romers' particular application it is impossible to distinguish monetary shocks from oil shocks and a world in which the Fed only announces intentions to act from one in which it in fact acts. We show that the techniques of dynamic simulation used in the Romer's study are inappropriate and quantitatively misleading. And, finally, that their approach does not meet the minimum requirements for successful causal inference: it is but another example of the fallacy post hoc ergo propter hoc.

PD July 1991. **TI** Quantitative Evaluation of Idealized Models in the New Classical Macroeconomies. **AA** University of California, Davis. **SR** University of California at Davis Research Program in Applied Macro and Macro Policy: 75; Department of Economics, University of California at Davis, Davis, CA 95616-8578. **PG** 42. **PR** no charge. **JE** E13, E17, C52, B41. **KW** Business Cycle. Macroeconomic Model. Classical Macroeconomics.

AB Since they are typically representative agent or other highly idealized models, new classical macroeconomic models are not one-for-one mappings of economic reality. This paper considers how, given that fact, such models may be quantified and used for policy analysis. The paper contrasts the direct estimation approach of Sargent and Hansen to the calibration approach of Lucas, Kydland and Prescott. It argues that the very fact of idealization may, in principle, lend support to the latter approach.

Horne, Jocelyn

PD January 1991. **TI** Indicators of Fiscal Sustainability. **AA** International Monetary Fund. **SR** International Monetary Fund Working Paper: WP/91/5; International Monetary Fund, Washington, DC 20431. **PG** 27. **PR** not available. **JE** H63, E62, C43. **KW** Public Finance. Public Debt. Fiscal Policy. Government Spending.

AB This paper assesses the usefulness of summary measures of fiscal sustainability for the purpose of multilateral surveillance. An overview of the main conceptual issues is first presented. Next, an assessment is made of the strengths and weaknesses of the summary measures in the context of their recent application to industrial countries by the OECD and the Fund. The measures are shown to highlight the inadequacy of using trends in public debt ratios to assess sustainability. However, the measures and their recent application are subject to a number of caveats, in particular in relation to their sensitivity to the discount rate, time paths of government expenditures and private sector behavior.

Host, Viggo

TI Decision on Strategic Markets - An Experimental Study. **AU** Holler, Manfred J.; Host, Viggo; Kristensen, Kai.

Howitt, Peter

TI Growth and Unemployment. **AU** Aghion, Philippe; Howitt, Peter.

Hu, Teh-wei

TI Taxation, Regulation, and Addiction: A Demand Function for Cigarettes Based on Time-Series Evidence. **AU** Keeler, Theodore E.; Hu, Teh-wei; Barnett, Paul G.

PD July 1991. **TI** The Impact of a Large Tax Increase on Cigarette Consumption: The Case of California. **AU** Hu, Teh-wei; Bai, Jushan; Keeler, Theodore E.; Barnett, Paul G. **AA** University of California at Berkeley. **SR** University of California at Berkeley Working Paper in Economics: 91-174; IBER 156 Barrows Hall, University of California at Berkeley, Berkeley, CA 94720. **PG** 15. **PR** $3.50 plus applicable sales tax. **JE** H24, D12, H21. **KW** Cigarette. Taxation.

AB in 1988, California voters enacted Proposition 99, increasing the tax on cigarettes by 25 cents per pack, effective

January 1989. Monthly sales data reported by the California State Board of Equalization between 1984 and 1990, adjusted for seasonal variation and time trend, show that consumption of cigarettes in January 1989 was 1.22 packs per capita less than would have been expected in the absence of the tax. By December 1990 consumption was only .64 packs below the pretax trend. If this trend continues, the effect of the tax may dwindle to nothing by mid 1993. An additional tax or a different type of tax, i.e., an ad valorem tax, must be considered if the effects of the tax are to be sustained.

Hylleberg, Svend

TI Seasonal Cointegration: The Japanese Consumption Function 1961.1-1987.4. **AU** Engle, R. F.; Granger, Clive W. J.; Hylleberg, Svend; Lee, H. S.

PD March 1991. **TI** Seasonality in Macroeconomic Time Series. **AU** Hylleberg, Svend; Jorgensen, Clara; Sorensen, Nils K. **AA** University of Aarhus. **SR** Aarhus Institute of Economics Memo: 1991-9; Institute of Economics, University of Aarhus, Building 350, Universitetsparken, DK-8000 Aarhus C, DENMARK. **PG** 26. **PR** no charge. **JE** E32, C43. **KW** Seasonality. Seasonal Integration. Aggregation. Time Series. Economic Fluctuations.
AB Recently, the seasonal characteristics of macroeconomic time series have drawn a lot of attention. It has been argued that the seasonal component of many macroeconomic time series constitutes a major part of the series measured as a proportion of the variance. In addition it has been found that the seasonal component of most macroeconomic time series is constant and best "explained" by seasonal dummies. Within the folklore is also stylized facts such as that of a Christmas boom followed by a beginning of the year trough. Based on quarterly and monthly macroeconomic time series from a large number of countries this paper shows that many macroeconomic time series have seasonal components that are changing over time and furthermore that the changing seasonal pattern depends on the level of aggregation over time and over sectors.

TI Integration, Near-Integration and Deterministic Trends. **AU** Haldrup, Niels; Hylleberg, Svend.

Ibaraki, Toshihide

TI On Sparse Subgraphs Preserving Connectivity Properties. **AU** Frank, Andras; Ibaraki, Toshihide; Nagamochi, Hiroshi.

Ibbotson, Roger G.

TI Do Winners Repeat? Patterns in Mutual Fund Behavior. **AU** Goetzmann, William N.; Ibbotson, Roger G.

Imbens, Guido

TI Choice-Based Sampling -- Inference and Optimality. **AU** Lancaster, Tony; Imbens, Guido.

Isard, Peter

PD May 1991. **TI** Uncovered Interest Parity. **AA** International Monetary Fund. **SR** International Monetary Fund Working Paper: WP/91/51; International Monetary Fund, Washington, DC 20431. **PG** 17. **PR** not available. **JE** F31, F41. **KW** Exchange Rate. Open Economy. Macroeconomics. Interest Rate.
AB This note provides an overview of the uncovered interest parity assumption. It traces the history of the interest parity concept, summarizes evidence on the empirical validity of uncovered interest parity, and discusses the implications for macroeconomic analysis. The uncovered interest parity assumption has been an important building block in multiperiod and continuous time models of open economies, and although its validity is strongly challenged by the empirical evidence, its retention in macroeconomic models is supported on pragmatic grounds, at least for the time being, by the lack of much empirical support for existing models of the exchange risk premium.

Jackman, Richard

PD March 1991. **TI** Regional Migration in Britain: An Analysis of Gross Flows Using NHS Central Register Data. **AU** Jackman, Richard; Savouri, Savvas. **AA** London School of Economics. **SR** London School of Economics Centre for Economic Performance Discussion Paper: 27; Centre for Economic Performance, London School of Economics and Political Science, Houghton Street, London WC2A 2AE, UNITED KINGDOM. **PG** 88. **PR** no charge. **JE** J61, R11, J63, J64. **KW** Regional Economics. Unemployment. Migration.
AB The hiring function represents the process whereby job seekers and vacancies are matched. Migration can be seen as a special case of hiring in which a job seeker in region i is matched to a job in region j. As a consequence, high unemployment regions will ceteris paribus experience larger out-migration flows. This paper begins by setting out the extension of the hiring function model to incorporate this special case and then estimates the structural form derived from the theoretical framework. Using annual data on inter-regional migration covering the period 1975-89 we show that unemployment and vacancy rates, distance and an index of similarities across regions in industry based employment composition help determine migration flows across regions.

James, Caroline R.

TI Can Informal Cooperation Stabilize Exchange Rates? Evidence from the 1936 Tripartite Agreement. **AU** Eichengreen, Barry; James, Caroline R.

Jappelli, Tullio

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

TI Information Sharing in Credit Markets. **AU** Pagano, Marco; Jappelli, Tullio.

Jepsen, Gunnar Thorlund

PD May 1991. **TI** How to Close "The Gap"? Wage Contracts and Design of Tax Enforcement Policy in the Shadow Economy. **AA** University of Aarhus. **SR** Aarhus Institute of Economics Memo: 1991-14; Institute of Economics, University of Aarhus, Building 350, Universitetsparken, DK-8000 Aarhus C, DENMARK. **PG** 14. **PR** no charge. **JE** H26, J41, L84. **KW** Wage Contracts. Tax Evasion. Shadow Economy.
AB Tax evasion is widespread in the market for repair and maintenance of houses and apartments. This paper presents a model with wage contracting in the shadow economy where the traditional notions of a market and of wages are ill-defined and the agents may be risk neutral. It is shown that the only feasible way of eliminating the shadow economy in this sector is through a tax reform based on direct expenditure tax.

Jiwan, Aly F.

PD June 1991. **TI** Cointegration, Error Correction and the Dynamics of Canadian M2 and M2+ Demand. **AA** Queen's University. **SR** Queen's Institute for Economic Research Discussion Paper: 825; Department of Economics, Queen's University, Kingston, Ontario, CANADA K7L 3N6. **PG** 27. **PR** $3.00 Canada; $3.00 U.S.; $3.50 foreign. **JE** E41, E47, E42. **KW** Money Demand. Currency. Interest Rate. Monetary Regimes.

AB Using the properties of integrated and cointegrated economic time series, this paper derives an error correction model (ECM) of money demand from a dynamic optimization problem. A general form of the ECM is estimated for Canadian M2 and M2+ over the period 1968:I to 1989:IV. The ECM appears to be a stable representation of broad money demand in Canada in terms of parameter constancy and forecasting ability. It is found that the demand for broad money in Canada is sensitive to the expected returns to holding foreign money. This result implies that the monetary authority should account for currency substitution in setting policy rules.

John, Kose

PD July 1990. **TI** Expected Returns and Accounting Betas. **AU** John, Kose; John, Teresa A.; Reisman, Haim. **AA** John and John: New York University. Reisman: Technion-Israel Institute of Technology. **SR** New York University Salomon Brothers Center Working Paper: S-91-10; 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** 11. **PR** $5.00. **JE** M41, G12, G11. **KW** Accounting. Asset Returns.

AB The paper studies sufficient conditions so that return betas and accounting betas are equal. The paper demonstrates that this relationship is very general and may hold under many possible scenarios. Our results also suggest a methodology for evaluating projects and untraded firms using accounting data. The method underlying the derivation here is very general and can be applied in deriving testable restrictions between fundamentals, broader in context than that of accounting variables.

PD 1991. **TI** Corporate Limited Liability and the Design of Corporate Taxation. **AU** John, Kose; Senbet, Lemma; Sundaram, Anant. **AA** John: New York University. Senbet: University of Maryland. Sundaram: Dartmouth College. **SR** New York University Salomon Brothers Center Working Paper: S-91-16; 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** 38. **PR** $5.00. **JE** H25, H21, G31. **KW** Corporate Taxes. Taxes. Tax System. Business Investment.

AB Corporate limited liability can potentially create agency conflicts between the public and private sectors. The resulting distortion may induce overinvestment in risky projects relative to the social optimum. This paper examines the role of a well designed corporate tax structure in aligning private investment choices with socially optimal levels. An appropriately high constant tax rate imposed on the positive cash flows provides sufficient investment disincentives to offset the overinvestment incentives of limited liability. However, the optimal tax rate is specific to the technology of individual firms. It is shown that a tax structure designed with an economy-wide single tax rate when combined with other features such as an initial zero tax bracket, investment-based deductions, tax credits and tax deductibility of debt can replicate the same incentives as that of an economy with multiple technology-specific tax rates. Institutional features observed in many advanced economies are consistent with such a design of taxation.

John, Teresa A.

TI Expected Returns and Accounting Betas. **AU** John, Kose; John, Teresa A.; Reisman, Haim.

Johnson, Omotunde E. G.

PD December 1990. **TI** Financial Market Constraints and Private Investment in a Developing Country. **AA** International Monetary Fund. **SR** International Monetary Fund Working Paper: WP/90/121; International Monetary Fund, Washington, DC 20431. **PG** 23. **PR** not available. **JE** O16, G31, F34. **KW** Developing Countries. Investment. Financial Markets. Private Debt.

AB Firms in developing countries that seek outside financing for investment must often choose their debt-equity combinations in the face of financial market constraints on debt service, on outside equity financing, and on internal finance (endowments). Inefficiencies in the allocation of available finance and in the equity-debt choices that can ensue can be prevented by appropriate policy measures to improve information on profitable investment opportunities and about firms; to directly strengthen financial intermediation; and to support appropriate credit guarantee schemes.

Johnson, Paul

PD June 1991. **TI** Aging and Economic Performance. **AA** London School of Economics. **SR** London School of Economics Centre for Economic Performance Discussion Paper: 34; Centre for Economic Performance, London School of Economics and Political Science, Houghton Street, London WC2A 2AE, UNITED KINGDOM. **PG** 26. **PR** no charge. **JE** J11, J14. **KW** Population. Demographics. Elderly.

AB This paper presents a brief review of the literature on the probable economic effects of population aging in the industrial economies over the next 4 decades. Outline information is provided about short-run and long-run changes in the size and age structure of the population. The implications of these population movements for the labor market, for consumption, for savings and investment, and for social security systems are then considered. The paper notes that economic research on population aging is relatively undeveloped, that current research findings are very tentative, and that research is constrained by substantial ignorance of many of the important linkages between economic and demographic systems.

Jones, Derek J.

TI Survivability and Degeneration in Employee-Owned Firms: Evidence from France. **AU** Estrin, Saul; Jones, Derek J.

Jorgensen, Clara

TI Seasonality in Macroeconomic Time Series. **AU** Hylleberg, Svend; Jorgensen, Clara; Sorensen, Nils K.

Junz, H. B.

PD March 1991. **TI** Integration of Eastern Europe into the World Trading System. **AA** International Monetary Fund.

SR International Monetary Fund Working Paper: WP/91/24; International Monetary Fund, Washington, DC 20431. **PG** 6. **PR** not available. **JE** F13, P23, P21. **KW** Policy Reform. Trade Policy. Monopoly.

AB The sheer size of mandated trade among members of the Council for Mutual Economic Assistance (CMEA), and its composition and quality, means that its reorientation toward other markets entails a whole complex of structural adjustment policies. To be successful, policy reform must be comprehensive, with clarity of purpose and predictability of action. Nevertheless, while gradualism should not be used as an excuse for delay, reforms must be harmonized with the timetable of requisite institutional change. In any case, reform must be accompanied by trade liberalization to help break down domestic monopolies and to gain the efficiencies from division of labor.

Kalotay, Andrew

PD February 1991. **TI** The Tale of Two Bond Swaps. **AU** Kalotay, Andrew; Tuckman, Bruce. **AA** Kalotay: Fordham University. Tuckman: New York University. **SR** New York University Salomon Brothers Center Working Paper: S-91-15; Salomon Brothers Center for the Study of Financial Institutions, Graduate School of Business Administration, New York University, 90 Trinity Place, New York, NY 10006. **PG** 19. **PR** $5.00. **JE** H25, H21, G32. **KW** Private Debt. Corporate Finance. Taxes.

AB Market prices reveal valuation differences across tax brackets grudgingly, if at all. Market transactions, however, may provide better evidence of these differences. This study shows how differences between the corporate and individual tax rates enabled two firms to engage in bond swaps which did not change the market value or face value of their outstanding debt, but nevertheless were profitable in a present value sense.

Kamin, Steven B.

PD June 1991. **TI** Exchange Rate Rules in Support of Disinflation Programs in Developing Countries. **AA** Board of Governors of the Federal Reserve System. **SR** Board of Governors of the Federal Reserve System International Finance Discussion Papers: 402; Division of International Finance, Board of Governors of the Federal Reserve System, Washington, DC 20551. **PG** 37. **PR** no charge. **JE** E63, F41, E31, E42. **KW** Exchange Rate. Stabilization. Inflation.

AB This paper analyzes how exchange rate policies can best support the sustainability of disinflation programs. Freezing the nominal exchange rate frequently has been recommended as a means of suppressing inertial inflation and accelerating the disinflation process. However, because any resultant real exchange rate appreciation often must be corrected through a subsequent devaluation, targeting the nominal exchange rate may merely postpone inflation rather than eliminate it once and for all. This paper argues that because excessive inflation during any particular period may jeopardize the stabilization program, exchange rate policies should be designed to smooth inflation across all phases of the disinflation experience. Toward the end, an initial devaluation followed by partial indexation of the exchange rate to domestic prices may be useful. The paper then considers how inconsistencies between an exchange rate rule and balance of payments viability may lead to "reserves crises.".

PD August 1991. **TI** Argentina's Experience with Parallel Exchange Markets: 1981-1990. **AA** Board of Governors of the Federal Reserve System. **SR** Board of Governors of the Federal Reserve System International Finance Discussion Papers: 407; Division of International Finance, Board of Governors of the Federal Reserve System, Washington, DC 20551. **PG** 81. **PR** no charge. **JE** F31, E42, F41. **KW** Argentina. Exchange Market. Exchange Controls. Exchange Rate.

AB This paper surveys the development and operation of the parallel exchange market in Argentina during the 1980's, and evaluates its impact upon macroeconomic performance and policy. The historical evolution of Argentina's exchange market policies is reviewed in order to understand the government's motives for imposing exchange controls. The parallel exchange market engendered by these controls is then analyzed, and econometric methods are used to evaluate the behavior of the parallel exchange rate and its impact upon the balance of payments. The main conclusion of the paper is that exchange controls were never effective enough in Argentina to allow the authorities to set the commercial exchange rate independently of the parallel market rate.

Kaminsky, Graciela

PD December 1990. **TI** Time Varying Risk Premia in Futures Markets. **AU** Kaminsky, Graciela; Kumar, Manmohan S. **AA** Kaminsky: University of California, San Diego. Kumar: International Monetary Fund. **SR** International Monetary Fund Working Paper: WP/90/116; International Monetary Fund, Washington, DC 20431. **PG** 12. **PR** not available. **JE** G13, G12. **KW** Futures Market. Commodities. Asset Pricing.

AB This paper undertakes an econometric investigation into the presence of risk premium in commodity futures markets. The statistical tests are derived from a formal model of asset pricing and are applied to futures prices in a variety of commodity markets. The results suggest that for several commodities there is evidence of a time varying risk premium, particularly in futures contracts maturing six months ahead. The implications of the study for the efficiency of the futures markets and the costs of using these markets for hedging are also noted.

Kanbur, Ravi

PD May 1991. **TI** Jeux Sans Frontieres: Tax Competition and Tax Coordination when Countries Differ in Size. **AU** Kanbur, Ravi; Keen, Michael. **AA** Kanbur; World Bank. Keen: University of Essex and Queen's University. **SR** Queen's Institute for Economic Research Discussion Paper: 819; Department of Economics, Queen's University, Kingston, Ontario, CANADA K7L 3N6. **PG** 40. **PR** $3.00 Canada; $3.00 U.S.; $3.50 foreign. **JE** F41, H21, F42, F15. **KW** Taxes. Economic Integration. Policy Coordination. International Trade. Open Economy.

AB Closer international integration is putting increasing pressure on existing national tax structures. This paper uses a simple two-country model to address a range of policy concerns that consequently arise, focusing particularly on the role of national size. Differences in size exacerbate the inefficiency due to noncooperative behavior, harming both countries. The smaller country would lose from harmonization to any tax rate between those of the noncooperative equilibrium, but both countries would gain from the imposition of a minimum tax anywhere in that range. The fully optimal response to freer cross-border trade, however, may be to do absolutely nothing.

Kantor, Shawn

TI The Good, the Bad, and the Paycheck: Compensating Differentials in Labor Markets, 1884-1903. **AU** Fishback, Price V.; Kantor, Shawn.

Karni, Edi

PD July 1991. **TI** The Measurement of Uncertainty. **AA** Johns Hopkins University. **SR** Johns Hopkins Department of Economics Working Paper: 269; Department of Economics, Johns Hopkins University, Baltimore, Maryland 21218. **PG** 23. **PR** no charge. **JE** D81, C91. **KW** Uncertainty. Subjective Probability. Utility Theory. Preferences. Beliefs.

AB In this paper we present an axiomatic subjective expected utility model of decision-making under uncertainty with state dependent preferences. Within this framework we discuss the role of methodology in the definition of subjective probabilities, and their relation to the decision-maker's beliefs regarding the likely realization of alternative events. We also present an experimental design that enables the elicitation of the decision-maker's subjective probabilities.

Katz, Michael L.

TI Contracting between Sophisticated Parties: A More Complete View of Incomplete Contracts and Their Breach. **AU** Hermalin, Benjamin E.; Katz, Michael L.

PD July 1991. **TI** Game-Playing Agents: Unobservable Contracts as Precommitments. **AA** University of California at Berkeley. **SR** University of California at Berkeley Working Paper in Economics: 91-172; IBER 156 Barrows Hall, University of California at Berkeley, Berkeley, CA 94720. **PG** 40. **PR** $3.50 plus applicable sales tax. **JE** D81, C78, L14. **KW** Precommitment. Renegotiation. Nash Equilibrium. Common Knowledge.

AB The players in most economically important games are agents, not principals. This raises the possibility of the principal's setting a strategic compensation scheme. The central question addressed here is whether unobservable agency contracts can serve as precommitments. I argue that, in terms of Nash equilibrium outcomes, the answer is no when it is common knowledge that there exists a contract that "solves" the standard agency problems and that the principal and agent have the same preferences over income and effort. However, I also show that when these conditions are not satisfied (as they typically will not be), provisions of the agency contract enacted solely to deal with incentive and risk sharing problems of the agency relationship may have the secondary effect of credibly precommitting the agent in the game he plays with other agents. I also briefly consider the effects of contract renegotiation.

Keeler, Theodore E.

PD March 1991. **TI** Highway Safety, Economic Behavior, and Driving Environment. **AA** University of California, Berkeley. **SR** University of California at Berkeley Working Paper in Economics: 91-161; IBER 156 Barrows Hall, University of California at Berkeley, Berkeley, CA 94720. **PG** 42. **PR** $3.50 plus applicable sales tax. **JE** R41, R48. **KW** Regulations. Highway. Transportation.

AB This paper contributes to the literature on economic aspects of highway safety in two important ways: first, it extends the consumer-theoretic model of safety behavior to show that the effects of regulation are likely to differ by driving environment, and it predicts the directions of those differences. Second, it tests the effects of regulatory policies on highway safety in differing driving environments, using a large (county-based) data set (for 1970 and 1980). In addition, the analysis contributes to a literature on the demand for safety relating income, education, and other non-regulatory variables. The results indicate considerable evidence that consumers offset regulations with their driving behavior, with respect to vehicle safety regulation, speed limit (which was found to affect fatalities only in high-density environments and not at all in rural areas) and with respect to certain other regulations, such as vehicle inspection programs.

PD July 1991. **TI** Taxation, Regulation, and Addiction: A Demand Function for Cigarettes Based on Time-Series Evidence. **AU** Keeler, Theodore E.; Hu, Teh-wei; Barnett, Paul G. **AA** University of California at Berkeley. **SR** University of California at Berkeley Working Paper in Economics: 91-173; IBER 156 Barrows Hall, University of California at Berkeley, Berkeley, CA 94720. **PG** 28. **PR** $3.50 plus applicable sales tax. **JE** D12, H24, I12, I18. **KW** Cigarettes. Taxation. Addiction. Consumption.

AB In this paper we analyze the effects of prices (in turn influenced by taxes), income, and anti-smoking regulations on the consumption of cigarettes. In addition, we analyze the structure of lags between price changes and consumption changes. Analysis is based on monthly time series data for California from January through December of 1990. The results indicate, first no lagged (or anticipatory) effects of price on consumption. This result is not consistent with economic models of addiction. Second, our evidence indicates that the price elasticity of demand for cigarettes, even in the short-run, is significantly less than zero, about .35 at the mean value of our data set. However, our results indicate that, as prices rise, demand becomes more elastic, as well, so that, after the tax was imposed in California, the price elasticity was more on the order of -.6 to -.7. Third, it would appear from our results that increasing antismoking regulations in California over the 1980's played some role in reducing smoking; however, this result is ambiguous, given the intercorrelation between our regulation index and a time trend, also included in our analysis of cigarette demand to measure change in social customs.

TI The Impact of a Large Tax Increase on Cigarette Consumption: The Case of California. **AU** Hu, Teh-wei; Bai, Jushan; Keeler, Theodore E.; Barnett, Paul G.

Keen, Michael

PD January 1991. **TI** Needs and Targeting. **AA** University of Essex and Queen's University. **SR** Queen's Institute for Economic Research Discussion Paper: 822; Department of Economics, Queen's University, Kingston, Ontario, CANADA K7L 3N6. **PG** 22. **PR** $3.00 Canada; $3.00 U.S.; $3.50 foreign. **JE** I32, I38. **KW** Poverty. Welfare Programs.

AB This paper shows that when - in the manner of the recent targeting literature - the resources available for poverty relief are allocated across heterogeneous groups so as to minimize a "well-behaved" index of aggregate poverty, the optimal response to an increase in the needs of some group may be to reduce the resources allocated to it. Necessary and sufficient conditions for optimally-targeted benefits to be inversely related to needs are established under two polar forms of poverty alleviation strategy (pure contingency and strict means-testing) and the wider methodological implications of this possibility discussed.

PD January 1991. **TI** Needs and Targeting. **AA** University of Essex and Queens University. **SR** Institute for Fiscal Studies (IFS) Working Paper: W91/4; Institute for Fiscal Studies, 7 Ridgmount Street, London WC1E 7AE, ENGLAND. **PG** 24. **PR** 3 pounds. **JE** F31, I32, I38. **KW** Poverty. Social Security. Welfare Programs.
AB This paper shows that when - in the manner of the recent targeting literature - the resources available for poverty relief are allocated across heterogeneous groups so as to minimize a "well-behaved" index of aggregate poverty, the optimal response to an increase in the needs of some group may be to reduce the resources allocated to it. Necessary and sufficient conditions for optimally-targeted benefits to be inversely related to needs are established under two polar forms of poverty alleviation strategy (pure contingency and strict means-testing) and the wider methodological implications of this possibility discussed.

PD January 1991. **TI** Aspects of Tax Coordination in the European Community. **AA** University of Essex, Queens University, and Institute for Fiscal Studies. **SR** Institute for Fiscal Studies (IFS) Working Paper: W91/5; Institute for Fiscal Studies, 7 Ridgmount Street, London WC1E 7AE, ENGLAND. **PG** 28. **PR** 3 pounds. **JE** H21, F15, F42, F14. **KW** Capital Taxation. Tax Coordination. European Community. Taxes. Policy Coordination. Economic Integration.
AB Completion of the internal market - and the increasing internationalization of economic activity more generally - has broadly three kinds of implications for Member States' tax policies. It imposes formal obligations, tightens informal constraints and presents opportunities. Coordination of tax policies is not the same thing, of course, as complete centralization of all tax decisions. That would almost certainly be as unwise as a matter of economic principle as it is unthinkable politically, at least for the foreseeable future. The suggestion is rather that there may exist collective gains from limited measures of harmonization in particular areas or, more flexibly still, from mutual adherence to some simple rules in tax-setting.

TI The Comparison between Ad Valorem and Specific Taxation under Imperfect Competition. **AU** Delipalla, Sofia; Keen, Michael.

TI Corporation Tax Asymmetries and Investment: Evidence from U.K. Panel Data. **AU** Devereux, Michael P.; Keen, Michael; Schiantarelli, Fabio.

TI Corporation Tax Asymmetries and Investment: Evidence from U.K. Panel Data. **AU** Devereux, Michael P.; Keen, Michael; Schiantarelli, Fabio.

TI Jeux Sans Frontieres: Tax Competition and Tax Coordination when Countries Differ in Size. **AU** Kanbur, Ravi; Keen, Michael.

Kennedy, James E.

PD July 1991. **TI** Empirical Relationships between the Total Industrial Production Index and its Diffusion Indexes. **AA** Board of Governors of the Federal Reserve System. **SR** Board of Governors of the Federal Reserve System Finance and Economics Discussion Series: 163; C/O Steven A. Sharpe, Mail Stop 89, Federal Reserve Board, Washington, DC 20551. **PG** 21. **PR** no charge. **JE** E23, E27, C43. **KW** Diffusion Indexes. Forecasting. Industrial Production.
AB The paper begins by explaining briefly how diffusion indexes of industrial production (IP) are calculated, and then presents statistics that summarize their behavior during the sample period. The diffusion indexes provide neither timely nor reliable signals in advance of turning points in total IP. However, tests based on regression equations, which provide a far more general summary of the data than cyclical timing relationships, indicate that lags of the diffusion indexes are highly significant in explaining the component of monthly IP growth that is not explained by lagged values of growth in IP and in new orders for durable goods. In addition, diffusion indexes of employment help to forecast both IP and real GNP. These results suggest that diffusion indexes, which have fallen out of favor during the past twenty years or so, may offer unexploited potential for projecting economic aggregates.

Keser, Claudia

PD 1990. **TI** Some Results of Experimental Duopoly Markets with Demand Inertia. **AA** University of Bonn. **SR** Universitat Bonn Sonderforschungsbereich 303 - Discussion Paper: B-170; Sonderforschungsbereich 303 an der Universitat Bonn, Adenauerallee 24-42, D-5300 Bonn 1, GERMANY. **PG** 31. **PR** no charge. **JE** C91, C71. **KW** Game Theory. Duopoly Game. Experimental Economics. Cooperative Games.
AB In this paper experiments are described where students have played twice a duopoly game with demand inertia in the laboratory. The actually observed behavior is different from what is prescribed by the unique subgame perfect equilibrium. Comparisons of the behavior when the game is played for the first and for the second time show that subjects tend to behave more cooperatively in the second plays: profits, prices and stability of prices are significantly higher in the second plays than in the first ones. In some markets almost Pareto optimal profits are obtained.

Keuschnigg, Christian

PD June 1990. **TI** Internationale und Intertemporale Effekte der Kapitaleinkommensbesteuerung. **AA** University of Bonn. **SR** Universitat Bonn Sonderforschungsbereich 303 - Discussion Paper: A-300; Sonderforschungsbereich 303 an der Universitat Bonn, Adenauerallee 24-42, D-5300 Bonn 1, GERMANY. **PG** 15. **PR** no charge. **JE** H21, H25. **KW** Business Taxes. Overlapping Generations Model. Intertemporal Model. Tax Policy. Taxes.
AB Paper in German.

PD January 1991. **TI** Intergenerational Incidence and Pareto Improving Tax Reform. **AA** University of Bonn. **SR** Universitat Bonn Sonderforschungsbereich 303 - Discussion Paper: A-328; Sonderforschungsbereich 303 an der Universitat Bonn, Adenauerallee 24-42, D-5300 Bonn 1, GERMANY. **PG** 19. **PR** no charge. **JE** D91, H21, E21, E13. **KW** Life Cycle Model. Taxes. Tax Reform. Intergenerational Model. Savings.
AB The paper clarifies the intergenerational incidence of taxes in the overlapping generations model when agents have a pure life cycle motive of savings. The intergenerational

incidence also characterizes the tax policy's potential for redistribution across generations. Since present and future generations are not linked via an operative altruistic bequest motive, such intergenerational redistribution is non-neutral in the pure life cycle model. The Ricardian neutrality proposition does not hold. If the tax policy is concerned with Pareto improvements of an initially distorted equilibrium, it is important to control for possibly adverse effects on the utility of some agents by unintended intergenerational redistribution. For example, intertemporal distortions may be reduced by granting investment incentives. The paper shows how taxes with different intergenerational incidence must be combined, first, to preserve revenue neutrality and, second, to keep the reform Pareto improving by properly controlling for redistribution across generations.

PD April 1991. **TI** Intergenerationally Neutral Taxation. **AA** University of Bonn. **SR** Universitat Bonn Sonderforschungsbereich 303 - Discussion Paper: A-305; Sonderforschungsbereich 303 an der Universitat Bonn, Adenauerallee 24-42, D-5300 Bonn 1, GERMANY. **PG** 17. **PR** no charge. **JE** D91, E62, H21. **KW** Intergenerational Model. Fiscal Policy. Life Cycle Model. Taxes.

AB The paper proposes a basic definition of intergenerational neutrality of fiscal policy in the life cycle model. The requirement of intergenerational neutrality imposes a restriction on the use of fiscal instruments that eliminates any welfare effects from intergenerational redistribution and thereby isolates the price effects of fiscal policy. This restriction endogenously determines a distribution of tax revenues in the form of transfers to young and old agents which ensures intergenerational neutrality. The endogenously determined share of tax revenues rebated to young and old agents is interpreted as the intergenerational incidence of the tax system. If revenues are not refunded to agents according to the intergenerational incidence of taxes, then redistribution in one or the other direction is installed. Hence, the derivation of intergenerationally neutral tax effects provides a benchmark for evaluating the redistributive content of an arbitrary fiscal program.

Khalil, Fahad

PD November 1990. **TI** Commitment in Auditing. **AA** Virginia Polytechnic Institute and State University. **SR** Virginia Polytechnic Institute and State University Working Paper in Economics: E90-11-01; Department of Economics, Sandy Hall, Virginia Polytechnic Institute and State University, Blacksburg, Virginia 24061. **PG** 26. **PR** free by request. **JE** L14, L21. **KW** Contracts. Auditing. Principal-Agent Model.

AB This paper analyzes the contract between a principal and an agent, when the principal can conduct an audit of the agent's cost of production. The principal can choose an audit policy after he observes the output-produced -- but he cannot commit to an audit policy at the beginning. When the cost of production is high the optimal contract requires the agent to produce an amount greater than the output under full information. By contrast, in the standard literature the principal is allowed to commit to audit policy; in this case, production is less than the output under full information when cost is high. Further results obtained are: first, the agent violates the terms of the contract with a positive probability; and second, the principal audits with a higher probability when he cannot commit as compared to when he can.

Khan, Mohsin S.

PD January 1991. **TI** Response of the Equilibrium Real Exchange Rate to Real Disturbances in Developing Countries. **AU** Khan, Mohsin S.; Ostry, Jonathan D. **AA** International Monetary Fund. **SR** International Monetary Fund Working Paper: WP/91/3; International Monetary Fund, Washington, DC 20431. **PG** 16. **PR** not available. **JE** F13, F31, F14. **KW** Commercial Policy. Exchange Rate. Developing Countries.

AB Using a simple dependent economy framework, this paper outlines the links between the equilibrium real exchange rate and some of its fundamental exogenous determinants, mainly terms of trade movements and commercial policy changes. Drawing on existing studies of trade flows in developing countries, it is possible to derive plausible quantitative ranges for the response of the equilibrium real exchange rate to both external and policy-induced shocks. The results should be particularly relevant in designing real exchange rate targets and rules that allow for movements in the equilibrium real exchange rate in response to various shocks.

PD March 1991. **TI** Macroeconomic Policies and Long-Term Growth: A Conceptual and Empirical Review. **AU** Khan, Mohsin S.; Villanueva, Delano. **AA** International Monetary Fund. **SR** International Monetary Fund Working Paper: WP/91/28; International Monetary Fund, Washington, DC 20431. **PG** 44. **PR** not available. **JE** E23, E63, O41, O11. **KW** Macroeconomic Policy. Output.

AB This paper reviews the theoretical and empirical aspects of the relationship between macroeconomic policies and the long-run rate of growth of GNP. The macroeconomic policies examined include fiscal policies, monetary and interest rate policies, external policies, and policies to reform the goods and labor markets, including adjustments of producer prices and wages. In general, the effects of these policies on growth operate directly or indirectly through their influence on investment in physical and human capital, and on factor productivity. The available empirical evidence confirms the effects of specific macroeconomic and financial policies on long-run growth.

Khor, Hoe E.

PD January 1991. **TI** Interest Rates in Mexico: The Role of Exchange Rate Expectations and International Creditworthiness. **AU** Khor, Hoe E.; Rojas-Suarez, Liliana. **AA** International Monetary Fund. **SR** International Monetary Fund Working Paper: WP/91/12; International Monetary Fund, Washington, DC 20431. **PG** 25. **PR** not available. **JE** E43, F31, F34, F36. **KW** External Debt. Exchange Rate. Interest Rate.

AB This paper explores how interest rates on domestic financial assets in Mexico are linked to expectations of exchange rate changes and to perceptions about the default risks contained in Mexico's external debt. It is shown that the interest rate differentials between domestic assets denominated in pesos and U.S. dollars reflected some concerns about the exchange rate policy during the period under study. In addition, the evidence suggests that the interest rate on Mexico domestic assets denominated in U.S. dollars is linked (i.e., cointegrated) to the yield implicit in the secondary market price for external debt issued by Mexico.

Klein, Daniel B.

TI Government Policy, Commitment Dominance and Prisoner's Dilemma. **AU** Hillier, Brian; Klein, Daniel B.; O'Flaherty, Brendan.

Kleit, Andrew N.

PD June 1991. **TI** Are Judges Smarter than Economists? Sunk Cost, the Threat of Entry, and the Competitive Process. **AU** Kleit, Andrew N.; Coate, Malcom B. **AA** Federal Trade Commission. **SR** Federal Trade Commission Bureau of Economics Working Paper: 190; Bureau of Economics, Federal Trade Commission, 6th and Pennsylvania Ave. NW, Washington, D.C. 20580. **PG** 23. **PR** no charge. **JE** L44, L12. **KW** Sunk Costs. Antitrust. Monopoly. Free Entry. Legal System.

AB Several recent antitrust cases indicate that courts believe the threat of entry can serve as an effective deterrent to an anticompetitive price increase. Yet there does not exist in the economic literature a general model that explains how entry can be such a threat, given the presence of small but positive sunk costs. This paper presents such a model, using concepts of buyer strategies and uncertainty. The applicability of such a model is then discussed using recent court decisions.

Knight, John

PD July 1991. **TI** The Length of Life and the Standard of Living: Economic Influences on Premature Death in China. **AU** Knight, John; Song, Lina. **AA** University of Oxford. **SR** Oxford Applied Economics Discussion Paper: 115; Institute of Economics and Statistics, St. Cross Building, Manor Road, Oxford OX1 3UL, ENGLAND. **PG** 28. **PR** not available. **JE** O53, I31, I12, I11. **KW** Mortality. Income Distribution. Health Care. China.

AB A detailed survey of mortality is used to analyze the determinants of premature death in rural China. Premature mortality is found to be inversely related to income: higher income in a county reduces its mortality rate, ceteris paribus. The inverse relationship is found for most major illnesses, and might be explained by the large element of self-reliance in the funding of health care expenditures in China, both at the household and the local level. However, the analysis of a rural household income and expenditure survey suggests that income-related differences in health care expenditures are not important. The results are used to address the basic question: why was there a remarkable decline in premature mortality in China between the early 1950's and the late 1970's? The contributions of income, of deliberate health care policies and of collective organization are examined.

Kopits, George

PD April 1991. **TI** Fiscal Reform in European Economies in Transition. **AA** International Monetary Fund. **SR** International Monetary Fund Working Paper: WP/91/43; International Monetary Fund, Washington, DC 20431. **PG** 33. **PR** not available. **JE** P21, P35, O52, E62, E61. **KW** Europe. Economic Reform. Public Finance. Fiscal Policy.

AB Most European economies in transition are engaged in public sector reform aimed mainly at replacing the previous fiscal system can make a distinct contribution to stabilization, equity, and efficiency. This paper examines past progress and future tasks in major reform areas: taxation, subsidies, social security, public investment, public enterprises, government debt, and intergovernmental relations. An overview of the fiscal reform process suggests that the contraction and restructuring of government operations are not likely to materialize soon and that there is a serious risk of widening fiscal imbalances during the transition.

Kottmann, Thomas

PD September 1990. **TI** Autoregressive Models with Forecast Feedback: A Monte-Carlo-Study and First Theoretical Results. **AU** Kottmann, Thomas; Kuliberda, Irene. **AA** University of Bonn. **SR** Universitat Bonn Sonderforschungsbereich 303 - Discussion Paper: B-160; Sonderforschungsbereich 303 an der Universitat Bonn Adenauerallee 24-42, D5300 Bonn 1, GERMANY. **PG** 26. **PR** no charge. **JE** C15, D84, C22. **KW** Rational Expectations. Feedback Model. Learning. Forecasting.

AB During the last five years there has been considerable progress in the analysis of learning procedures towards rational expectations. The results can be roughly summarized as follows: Under kind-of ergodicity assumptions ordinary least squares type learning procedures converge to generalized rational expectations if the influence of the forecast terms is not too large. The most serious deficiency of these results is that they do not apply right off to models with lagged endogenous variables; the approach of Marcet/Sargent allows us to analyze some quite special models of this kind, but apparently does not cover the general case. The reason is that models with forecast feedback and lagged endogenous variables exhibit extraordinarily complicated dynamics, so unfortunately the stochastic approximation methods employed by Kottmann and Mohr do not help. The lack of satisfactory theoretical results give rise to the Monte-Carlo-study that is to be reported here.

Krelle, Wilhelm

PD February 1988. **TI** Changes in the Degree of Activity and the Organizational Efficiency of a Society as a Cause for Long Waves in GDP. **AA** University of Bonn. **SR** Universitat Bonn Sonderforschungsbereich 303 - Discussion Paper: B-145; Sonderforschungsbereich 303 an der Universitat Bonn, Adenauerallee 24-42, D-5300 Bonn 1, GERMANY. **PG** 43. **PR** no charge. **JE** E32, O41. **KW** Economic Fluctuations. Growth Rates. Business Cycle.

AB The downing of the growth rates in the 70s may be interpreted as the downing phase of a long-term Kondratieff wave. These waves are explained by an interdependent dynamic system of two latent variables called "degree of economic activity" and "degree of organizational efficiency" of the society.

PD January 1990. **TI** The Relation between Economic Growth and Structural Change. **AA** University of Bonn. **SR** Universitat Bonn Sonderforschungsbereich 303 - Discussion Paper: B-141; Sonderforschungsbereich 303 an der Universitat Bonn, Adenauerallee 24-42, D-5300 Bonn 1, GERMANY. **PG** 44. **PR** no charge. **JE** O41, F43. **KW** Economic Growth. Structural Change.

AB Economic growth is inevitably connected with structural change. If the structural change is restrained, the growth rate is reduced. This is demonstrated by a dynamic multisector world model where production follows demand and demand changes with higher income. Empirical results and forecasts are presented.

PD May 1990. **TI** Ost-West Wirtschaftsentwicklung im Nachsten Jahrzehnt. **AA** University of Bonn.

SR Universitat Bonn Sonderforschungsbereich 303 - Discussion Paper: B-165; Sonderforschungsbereich 303 an der Universitat Bonn, Adenauerallee 24-42, D-5300 Bonn 1, GERMANY. **PG** 37. **PR** no charge. **JE** P23, P21, O11, O52. **KW** Economic Development. Germany. Market Economy.
AB Paper in German.

Kristensen, Kai

TI Decision on Strategic Markets - An Experimental Study. **AU** Holler, Manfred J.; Host, Viggo; Kristensen, Kai.

Kroner, Kenneth F.

PD July 1991. **TI** Time Varying Distributions and Dynamic Hedging with Foreign Currency Futures. **AU** Kroner, Kenneth F.; Sultan, Jahangir. **AA** Kroner: University of Arizona. Sultan: Bentley College. **SR** University of Arizona Economics Working Paper: 91-7; Department of Economics, Bldg #23, University of Arizona, Tucson, AZ 85721. **PG** 26. **PR** $2 Canada and U.S.; $3 Overseas by air. **JE** G15, G13, G14. **KW** Hedging. Futures Market. International Markets.
AB Most research in the hedging literature has disregarded both the long-run cointegrating relationship between financial assets and the dynamic nature of the distributions of the assets. We argue that neglecting these seriously affects the hedging performances of the existing models, and propose an alternative model which accounts for both of them. Using a bivariate error correction model with a generalized ARCH error structure, we estimate the risk-minimizing futures hedge rations for the British pound, the Canadian Dollar, the German mark, the Japanese yen and the Swiss franc. Both within sample comparisons and out of sample comparisons reveal that our proposed model provides a better hedge than the conventional models.

Krueger, Alan B.

PD August 1991. **TI** How Computers Have Changed the Wage Structure: Evidence from Microdata, 1984-89. **AA** Princeton University and National Bureau of Economic Research. **SR** Princeton Industrial Relations Section Working Paper: 291; Department of Economics, Princeton University, Princeton, NJ 08544-2098. **PG** 47. **PR** $1.50. **JE** J31, O33, J24. **KW** Wages. Computers. Technical Change. Education.
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.

TI Estimating the Payoff to Schooling Using the Vietnam-Era Draft Lottery. **AU** Angrist, Joshua D.; Krueger, Alan B.

Kuliberda, Irene

TI Autoregressive Models with Forecast Feedback: A Monte-Carlo-Study and First Theoretical Results. **AU** Kottmann, Thomas; Kuliberda, Irene.

Kumar, Manmohan S.

TI Time Varying Risk Premia in Futures Markets. **AU** Kaminsky, Graciela; Kumar, Manmohan S.

TI Proposals for Privatization in Eastern Europe. **AU** Borensztein, Eduardo; Kumar, Manmohan S.

Kupiec, Paul

PD July 1991. **TI** Noise Traders, Excess Volatility, and a Securities Transaction Tax. **AA** Board of Governors of the Federal Reserve System. **SR** Board of Governors of the Federal Reserve System Finance and Economics Discussion Series: 166; C/O Steven A. Sharpe, Mail Stop 89, Federal Reserve Board, Washington, DC 20551. **PG** 40. **PR** no charge. **JE** G12, H25, G14. **KW** Volatility. Securities. Noise Traders. Taxes.
AB Advocates of transactions taxes have suggested that these taxes may reduce volatility by reducing destabilizing trading volume. This paper analyzes the effects of a transactions tax in alternative general equilibrium models of risky asset trading all of which exhibit excess price volatility and excess trading owing to the influences of "noise traders." In these models, transactions taxes may reduce volatility, but such an outcome is not assured. On balance it appears that transactions taxes will more likely increase volatility. These models provide intuition on the avenues through which transactions taxes are likely to influence asset price volatility and also predict that instituting a transactions tax is likely to increase trading volume in at least some economic states. The analysis shows that the alleged allocational efficiency and stabilization benefits of a transaction tax are not transparent.

PD July 1991. **TI** Stock Market Volatility in OECD Countries: Recent Trends, Consequences for the Real Economy, and Proposals for Reform. **AA** Board of Governors of the Federal Reserve System. **SR** Board of Governors of the Federal Reserve System Finance and Economics Discussion Series: 165; C/O Steven A. Sharpe, Mail Stop 89, Federal Reserve Board, Washington, DC 20551. **PG** 47. **PR** no charge. **JE** G15, G12, G14. **KW** Volatility. Stock Market. International Markets.
AB This paper examines the historical patterns among the returns and return volatilities of stock market indices for 15 OECD countries over the last thirty years. It characterizes trends in gross volatility and measures of inter-market correlations, describing the degree and manner in which these statistics have changed over time. It discusses the real economic implications of transitory periods of excess volatility and considers financial policies that have been proposed in the U.S. to limit volatility. The results suggest that the past three decades have coincided with a worldwide increase in the average levels of volatility in stock returns as well as a general increase in the strength of the positive correlations among national stock index returns and the conditional volatilities of these returns. The evidence to date does not suggest that the increase in volatility has had strong effects on economic activity.

TI Prudential Margin Policy in a Futures-Style Settlement System. **AU** Fenn, George; Kupiec, Paul.

Lahiri, Ashok Kumar

PD May 1991. **TI** Yugoslav Inflation and Money. **AA** International Monetary Fund. **SR** International Monetary Fund Working Paper: WP/91/50; International Monetary Fund, Washington, DC 20431. **PG** 36. **PR** not available. **JE** E31, E41, E52, P22. **KW** Inflation. Yugoslavia. Monetary Policy. Central Bank.

AB Yugoslav inflation unfolded as a classic wage-price-exchange rate spiral through the 1970's and 1980's and into hyperinflation in the last quarter of 1989. This paper examines the process of monetary accommodation of inflation, the behavior of demand for money, and the interaction between the two in Yugoslavia. The asset-liability structure of the Central Bank, together with the policy stance on exchange and interest rates, led to a significant feedback from inflation to money supply. Real money balances are found to have been cointegrated with other economic variables despite their explosive and seasonal nature, and hence in long-run equilibrium relationship as economic theory would suggest.

Lam, David

TI The Two-Sex Problem and the Marriage Squeeze in an Equilibrium Model of Marriage Markets. **AU** Bergstrom, Theodore; Lam, David.

Lancaster, Tony

PD May 1991. **TI** Choice-Based Sampling -- Inference and Optimality. **AU** Lancaster, Tony; Imbens, Guido. **AA** Lancaster: Brown University. Imbens: Harvard University. **SR** Brown University Department of Economics Working Paper: 91-17; Department of Economics, Brown University, Providence, Rhode Island 02912. **PG** 25. **PR** not available. **JE** C13, C51, C25. **KW** Sampling. Method of Moments. Maximum Likelihood.

AB This paper provides a comparative study of alternative estimators in the choice-based sampling model. The framework for the comparisons is that of generalized method of moments estimation, recently introduced as an approach to this problem by Imbens (1990). By using their representation as method of moments procedures we are able to delineate rather easily the properties of many proposed estimators for the choice-based sampling model. In particular we study the efficient method of moments estimator, Imbens (1990); the conditional maximum likelihood estimator, Manski and McFadden (1981); and its modification due to Cosslett (1981); the weighted exogenous sampling maximum likelihood estimator, Manski and Lerman (1977); and its similar modification. By using a rather powerful matrix notation we are able to show clearly the structure of alternative estimators and to identify the sources of their inefficiency.

Lane, Timothy D.

PD July 1991. **TI** Inflation Stabilization and Economic Transformation in Poland: The First Year. **AA** International Monetary Fund. **SR** International Monetary Fund Working Paper: WP/91/70; International Monetary Fund, Washington, DC 20431. **PG** 42. **PR** not available. **JE** O52, E65, P27, P21. **KW** Stabilization. Policy. Economic Reform. Poland.

AB This paper reviews the experience of 1990, the first year of Poland's program of stabilization and reform. The background is described, including previous reform efforts and the crisis of the late 1980's. Then the various elements of the program are discussed, including fiscal adjustment, wage controls, the possibility of an initial liquidity overhang, the exchange rate anchor, and structural reforms. The initial results of the program are assessed, and alternative explanations of the decline in output are considered.

PD August 1991. **TI** Fiscal Constraints on Market-Oriented Reform in a Socialist Economy. **AU** Lane, Timothy D.; Dinopoulous, Elias. **AA** Lane: International Monetary Fund. Dinopoulous: University of Florida. **SR** International Monetary Fund Working Paper: WP/91/75; International Monetary Fund, Washington, DC 20431. **PG** 28. **PR** not available. **JE** F34, P31, P33, P35. **KW** Socialism. External Debt. Taxes.

AB This paper develops a simple two-sector model of a socialist economy, in which government revenues required for servicing external debt are obtained from taxation of the socialized sector and from import taxes. Wages and employment in the socialized sector are the outcome of Nash bargaining between the government and an import-competing labor-dominated state enterprise with domestic market power. The effects of trade liberalization, demonopolization, technical improvements, and limitations on labor's bargaining power are examined, and the implications for labor's bargaining power are examined, and the implications for privatization are considered. It is shown that some combination of tax reform and debt reduction may be a precondition for market-oriented reforms.

Lapham, Beverly J.

PD June 1991. **TI** Tariffs in a Dynamic Differentiated Duopoly. **AA** Queen's University. **SR** Queen's Institute for Economic Research Discussion Paper: 823; Department of Economics, Queen's University, Kingston, Ontario, CANADA K7L 3N6. **PG** 44. **PR** \$3.00 Canada; \$3.00 U.S.; \$3.50 foreign. **JE** F12, F13. **KW** Trade Policy. Tariffs. Commercial Policy. Trade Model.

AB The effects of an unilateral tariff on prices, quantities, and welfare in the presence of dynamic elements facing imperfectly competitive firms is examined. International duopolists, selling differentiated products, interact strategically in a price setting game under the tariff policy. It is shown that the presence of dynamic elements in the form of adjustment costs to changing sales volume significantly affect the relationship between tariff rates and aggregate domestic welfare even when sales are constant and no adjustment costs are actually paid. The level of optimal tariffs is affected by the size of adjustment costs with lower optimal tariffs associated with higher adjustment costs. Of particular interest is the possibility that autarky is optimal under positive adjustment costs while tariff restricted trade is optimal in the absence of such costs.

Laroque, G.

PD June 1991. **TI** Investissement et Politique Monetaire Dans le Court Terme: Une Presentation du Modele IS-LM. **AA** INSEE. **SR** Unite de Recherche Document de Travail ENSAE/INSEE: 9109; INSEE, Unite de Recherche, 18 Bd. Adolphe Pinard, 75675 Paris Cedex 14, FRANCE. **PG** 45. **PR** no charge. **JE** E12, E17. **KW** Investment. Monetary Policy. Expectations. Macroeconomic Model.

AB In this article, the IS-LM model is reexamined in light of the developments of macroeconomic theory in the past two decades. The transaction demand for money is described through a Clower constraint, and the demand for physical investment is derived from the maximization of the sum of the discounted profits of the entrepreneurs. The conclusions of the traditional analysis are discussed in relation to assumptions on expectations formation. Among other results, one obtains the equivalence between bond financing and tax financing of government deficits of Barro [1974], as a consequence of a particular expectation assumption. The link between monetary policy and investment appears to be highly dependent on the shape of the price and wage expectations of the investors. Paper in French.

Laurent, Monique

TI The Cut Cone: Simplicial Faces and Variety of Realizations. **AU** Deza, Michel; Laurent, Monique.

Leahy, Michael P.

PD June 1991. **TI** Determining Foreign Exchange Risk and Bank Capital Requirements. **AA** Board of Governors of the Federal Reserve System. **SR** Board of Governors of the Federal Reserve System International Finance Discussion Papers: 400; Division of International Finance, Board of Governors of the Federal Reserve System, Washington, DC 20551. **PG** 31. **PR** no charge. **JE** G21, G28, F31. **KW** Exchange Rate. Banks. Capital Requirements.

AB This paper examines three alternative measures of exchange rate risk that could be used to develop a risk-based capital requirement for banks with foreign exchange exposure. One measure, the standard deviation of the portfolio, is constructed under the assumption that exchange rate changes are distributed normally. While this measure is widely used in a variety of financial applications, it is subject to the criticism that it fails to capture well the behavior of exchange rate changes in the tails of their density function. A second possible measure is developed that combines the standard deviation and a method used by the Bank of England to assess foreign exchange exposure. This measure fails to represent the tail behavior and correlation patterns of exchange rates. The third measure uses nonparametric methods to determine capital requirements. The third measure does not suffer from the deficiencies of the other two: it allows for a rich pattern of exchange rate correlations and for non-normal characteristics in the tails of the density function.

Lebrun, Bernard

PD May 1991. **TI** Repeated Trade and Asymmetric Information: A Principal-Agent Analysis in the Auction Framework. **AA** Virginia Polytechnic Institute and State University. **SR** Virginia Polytechnic Institute and State University Working Paper in Economics: E91-05-01; Department of Economics, Sandy Hall, Virginia Polytechnic Institute and State University, Blacksburg, Virginia 24061. **PG** 82. **PR** free by request. **JE** D82, D44, C71. **KW** Auctions. Asymmetric Information. Principal-Agent Model. Folk Theorem. Repeated Game.

AB A purchaser (typically a governmental agency) awards projects to a producer through repeated auctions. The bidders' costs of production are stochastic and their actual values at each period are unknown to the purchaser. Moreover this governmental agency (call it "the State") has imperfect information about the true cost structure and hesitates between two cost probability distributions. We study the equilibria of the repeated game with discounting. One of the main results is the full characterization, for the discount factor tending towards one, of the expected payoffs or profits achieved when the players follow Nash equilibrium strategies. Each Nash agreement turns out to be approximately equivalent to a pure perfect Bayesian equilibrium characterized by average prices and a convex combination of average probabilities of trade.

PD May 1991. **TI** First Price Auction with Two Bidders: The Asymmetric Case. **AA** Virginia Polytechnic Institute and State University. **SR** Virginia Polytechnic Institute and State University Working Paper in Economics: E91-05-03; Department of Economics, Sandy Hall, Virginia Polytechnic Institute and State University, Blacksburg, Virginia 24061. **PG** 63. **PR** free by request. **JE** D44. **KW** Auctions. Bayesian Equilibrium. Nash Equilibrium.

AB We consider the model of sealed first bid auction with two nonidentical bidders who have independent private valuations. We prove the existence of a Nash equilibrium and give some characterization of the equilibrium strategies. Under additional assumptions we prove also the uniqueness of the equilibrium.

Lee, H. S.

TI Seasonal Cointegration: The Japanese Consumption Function 1961.1-1987.4. **AU** Engle, R. F.; Granger, Clive W. J.; Hylleberg, Svend; Lee, H. S.

Leeper, Eric M.

PD July 1991. **TI** In Search of the Liquidity Effect. **AU** Leeper, Eric M.; Gordon, David B. **AA** Board of Governors of the Federal Reserve System. **SR** Board of Governors of the Federal Reserve System International Finance Discussion Papers: 403; Division of International Finance, Board of Governors of the Federal Reserve System, Washington, DC 20551. **PG** 60. **PR** no charge. **JE** E41, E43, E52. **KW** Liquidity Effect. Interest Rates. Monetary Policy.

AB A short-run negative relationship between monetary aggregates and interest rates - the "liquidity effect" - is central to popular, political, and academic discussions of monetary policy. This paper searches for this empirical relationship. We use monthly U.S. data since 1954 to ask if the characterization of the liquidity effect is sensitive to (i) changes in sample period; (ii) conditioning the correlations on additional variables; (iii) assuming money growth is exogenous, and (iv) treating monetary changes as anticipated or unanticipated. The correlations change significantly with each of the four variations. We conclude that a successful search for the liquidity effect requires careful identification of private and policy behavior.

Leff, Nathaniel H.

PD December 1990. **TI** Direct Foreign Investment, Multinational Corporations and the Developing Countries: Risks, Returns, and Deceleration. **AA** Columbia University. **SR** Columbia First Boston Series in Money, Economics and Finance Working Paper: FB-91-05; Columbia University, Graduate School of Business, First Boston Series, New York, NY 10027. **PG** 49. **PR** $5.00 academic and non-profit institution; $6.00 corporations (add $1.00 for foreign requests). **JE** F21, F23, O11, O57. **KW** International Investment. Developing Countries. Multinational Firms.

AB This paper analyzes recent features of direct foreign investment to the developing countries: quantitative magnitudes of gross and net flows; changes in source and host countries; changes in sectoral allocations; changes in risks and returns. The paper also presents a conceptual framework for analyzing interactions between governments and multinational corporations in the developing countries. The conceptual framework is then applied to analyze policy choices for a developing country that would like to maximize the net positive impact of direct foreign investment on its development. Finally, we use a simple econometric model to analyze the causes of the recent deceleration of direct foreign investment flows to the developing countries. With entry of new players in what had formerly been relatively tight international oligopolies, excess returns due to market power in developing countries have been eroded. For many multinational corporations, the game may no longer be worth the candle.

Leone, Alfredo M.

TI Liberalization and Financial Crisis in Uruguay (1974-1987). **AU** Perez-Campanero, Juan; Leone, Alfredo M.

Levin, Jonathan

PD January 1991. **TI** Measuring the Role of Subnational Governments. **AA** International Monetary Fund. **SR** International Monetary Fund Working Paper: WP/91/8; International Monetary Fund, Washington, DC 20431. **PG** 15. **PR** not available. **JE** H72, H77, H81. **KW** Government Spending. Government Grants.

AB To measure subnational governments, only external money flows are counted, excluding intra-level transactions in measuring a level of government and all intergovernmental transactions in measuring general government. Control, finance, and administration should be distinguished in measuring centralization and each level's share of general government, administered expenditures being net of grants given to other governments and financed expenditures net of grants received. Disparate decentralization of finance, control, and administration brings vertical imbalance, measured by the portion of a government's expenditures not covered by its own resources and by the ratio of intergovernmental grants to total government expenditures.

PD August 1991. **TI** Valuation and Treatment of Depletable Resources in the National Accounts. **AA** International Monetary Fund. **SR** International Monetary Fund Working Paper: WP/91/73; International Monetary Fund, Washington, DC 20431. **PG** 19. **PR** not available. **JE** Q32, Q38, C82, E20. **KW** Natural Resources. National Accounts. Data Methodology.

AB To assess the feasibility of the national accounts treating as assets depletable resources extracted for sale, the paper examines three issues: 1. whether treating natural resources as assets when they are used requires symmetrical accounting when they enter economic reserves; 2. at what stage between existence in nature and extraction entry to reserves could be counted; and 3. how the value of the in-ground natural resource component could be determined. It suggests treating natural resources entering reserves as "imports" from the environmental account added to the capital account, registering additions to reserves at a stage involved in economic activities, and valuing reserves by procedures related to market price.

Levine Phillip

TI Unemployment Insurance Taxes and the Cyclical Properties of Employment and Unemployment. **AU** Card, David; Levine Phillip.

Levy, Anat

TI Endogenous and Exogenous Restrictions on Search for Employment. **AU** Bar-Ilan, Avner; Levy, Anat.

Lewis, Frank D.

TI The Profitability of Early Canadian Railroads: Evidence from the Grand Trunk and Great Western Railway Companies. **AU** Carlos, Ann; Lewis, Frank D.

Li, Ya

PD June 1991. **TI** A Game Theoretic Model of Public Goods Provision with Positive Nash Equilibria and its Experimental Evidence. **AA** University of Arizona. **SR** University of Arizona Economics Working Paper: 91-10; Department of Economics, Bldg #23, University of Arizona, Tucson, AZ 85721. **PG** 39. **PR** $2 Canada and U.S.; $3 Overseas by air. **JE** D12, H41, C91. **KW** Public Goods. Nash Equilibrium. Experimental Economics. Free Rider Problem.

AB This paper explores theoretically and experimentally the incentive and efficiency aspects for the provision of the public goods with "positive link" characteristics. A unique feature of our game theoretic model as well as our experimental design is that we use a nonlinear and non-separable payoff function, which captures the positive link between the provision of the public goods and the private gains to individual providers. Contrary to most pure public goods models in which there often exists a single period dominant strategy to free ride, free riding is no longer a dominant strategy in our model. Instead there exists 1) a positive Nash equilibrium of contributions; and 2) multiple collusive outcomes which are Pareto superior to the Nash equilibrium. To overcome the inefficiency problems associated with the Nash equilibrium by some alterations in the underlying institutions and the incentive structure, two schemes are proposed in later parts of this paper: 1) allowing communication among individual players; and 2) creating a provision point environment.

PD July 1991. **TI** Tests for a Reward Medium Effect on Experimental Outcomes. **AA** University of Arizona. **SR** University of Arizona Economics Working Paper: 91-11; Department of Economics, Bldg #23, University of Arizona, Tucson, AZ 85721. **PG** 51. **PR** $2 Canada and U.S.; $3 Overseas by air. **JE** C91. **KW** Laboratory Experiments. Experimental Economics. Experiments. Rewards.

AB Although many experimentalists disagree about the effect of different reward mediums on the validity of experiments, such an effect has not yet been statistically tested using data from comparable experiments. In this paper, we argue that extra credit points as a reward medium meet all the widely accepted sufficient conditions for a valid controlled experiment as defined by Smith (1982). The drawbacks of extra credit points as a reward medium stem from two sources: 1) certain "technical difficulties," and 2) the need to maintain a "fair" grading procedure in the classroom. To the extent that these difficulties can be overcome, extra credit points are as good as cash in terms of the validity of experiments. To see whether there are any reward medium treatment effects on experimental outcomes, we run 32 public goods experiments and conducted 40 means-based paired t-tests and Fisher sign tests (nonparametric) based on the experimental results. The statistical tests suggest no significant difference between the results of extra credit point experiments and those of cash counterparts in terms of the mean and median contribution, per capita return rate, profit and efficiency. We therefore conclude that there is no significant evidence that the reward medium can affect subject behavior in the laboratory environment.

Liang, J. Nellie

TI Changes in the Cost of Equity Capital for Bank Holding Companies and the Effects on Raising Capital. **AU** Berkovec, James A.; Liang, J. Nellie.

Lim, G. C.

PD March 1991. **TI** The Real Exchange Rate and Balance of Trade in a Small Open Economy: The Case of Australia. **AU** Lim, G. C.; Stein, Jerome L. **AA** Lim: University of Melbourne. Stein: Brown University. **SR** Brown University Department of Economics Working Paper: 91-12; Department of Economics, Brown University, Providence, Rhode Island 02912. **PG** 27. **PR** not available. **JE** F31, F32, F41. **KW** Exchange Rate. Capital Movements. Foreign Debt. Terms of Trade. Capital Mobility.

AB We analyze the dynamics of the Natural Real Exchange Rate and real trade deficit in Australia. The Natural Real Exchange Rate is what would be generated by the fundamentals: the terms of trade, productivity, thrift, and the real world rate of interest. The state variables are the real exchange rate, the real trade deficit, the capital stock, and foreign debt. The model is used to interpret the empirical results derived using the techniques of cointegration and error correction, for the period 1974-89. We explain how the fundamentals produce different trajectories of the state variables.

Lipschitz, Leslie

PD March 1991. **TI** Real Exchange Rates and Competitiveness: A Clarification of Concepts. **AU** Lipschitz, Leslie; McDonald, Donogh. **AA** International Monetary Fund. **SR** International Monetary Fund Working Paper: WP/91/25; International Monetary Fund, Washington, DC 20431. **PG** 26. **PR** not available. **JE** F31, F12. **KW** Exchange Rate. Competitiveness. Europe. Trade Model.

AB This paper examines indicators of competitiveness. It analyzes the conceptual foundations of conventional measures of the real exchange rate and finds that inferences about competitiveness from these indicators require strong, and in many cases implausible, assumptions. Based on this analysis some alternative measures are proposed and their use is illustrated using data from Europe. Given the usefulness of standardized indicators, four simple charts are proposed; these help solve some conundrums in the European data and provide the basis for a richer set of inferences about competitiveness.

Lizondo, J. Saul

PD March 1991. **TI** A Note on Dual Foreign Exchange Markets with Official Rationing: **AA** International Monetary Fund. **SR** International Monetary Fund Working Paper: WP/91/31; International Monetary Fund, Washington, DC 20431. **PG** 13. **PR** not available. **JE** F31, E42, E31, F41. **KW** Exchange Rate. Inflation. Monetary Regimes. Foreign Exchange. Rationing.

AB This paper examines the relationship between the long-run rate of inflation and the allocation of transactions between markets in economies that operate dual exchange market regimes and ration foreign exchange in the official market. It shows that wider access of importers to the official market, and wider access of exporters to the free market, are associated with higher rates of inflation and vice versa. The direction of causality among the various variables, and thus the effects of economic policies, depend on whether the official exchange rate is predetermined or floating.

Loebl, Martin

PD December 1990. **TI** Efficient Maximal Cubic Graph Cuts. **AA** University of Bonn. **SR** Universitat Bonn Sonderforschungsbereich 303 - Discussion Paper: 90663-OR; Sonderforschungsbereich 303 an der Universitat Bonn, Adenauerallee 24-42, D-5300 Bonn 1, GERMANY. **PG** 14. **PR** no charge. **JE** C63, C60. **KW** Graph Theory. Max Cut Problem. Polynomial Algorithm.

AB We exhibit a polynomial algorithm which, given a cubic graph with positive weights on the edges, finds a maximal edge-cut (whose total weight may not be improved by moving a single vertex from one "side" of the cut to the other "side"). This complements a recent result of A.A. Schaffer and M. Yannakakis that the maximal cut problem is complete in the class of local search problems.

PD February 1991. **TI** Fast and Slow Growing (A Combinatorial Study of Unprovability). **AU** Loebl, Martin; Nesetril, Jaroslav. **AA** Charles University, Prague and University of Bonn. **SR** Universitat Bonn Sonderforschungsbereich 303 - Discussion Paper: 91682-OR; Sonderforschungsbereich 303 an der Universitat Bonn Adenauerallee 24-42, D5300 Bonn 1, GERMANY. **PG** 43. **PR** no charge. **JE** C60. **KW** Fast Growing Functions. Recursive Functions. Hierarchies.

AB We survey the recent research related to the hierarchies of fast growing functions. We concentrate on two main areas: hierarchies of primitive recursive functions and hierarchies of (in Peano Arithmetic) provably total functions. In each of these areas we give a theoretical background and give all the main examples and results. These include examples from combinatorics, geometry, number theory and computer science. In the last part we outline some recently found techniques which enable a unified treatment for results in both areas. We give several sample proofs.

Lutz, Mark S.

TI Interest Rates and Government Debt: Are the Linkages Global Rather than National? **AU** Tanzi, Vito; Lutz, Mark S.

MacDonald, Ronald

PD June 1991. **TI** Exchange Rate Economics: A Survey. **AU** MacDonald, Ronald; Taylor, Mark P. **AA** International Monetary Fund. **SR** International Monetary Fund Working Paper: WP/91/62; International Monetary Fund, Washington, DC 20431. **PG** 57. **PR** not available. **JE** F31, F41, F47, G15. **KW** Exchange Rate. Financial Markets. International Markets.

AB We survey the literature on the two main views of exchange rate determination that have evolved since the early 1970's: the monetary approach to the exchange rate (in flex-price, sticky-price and real interest differential formulations) and the portfolio balance approach. We then go on to discuss the extant empirical evidence on these models and conclude by discussing how the future research strategy in the area of exchange rate determination is likely to develop. We also discuss the literature on foreign exchange market efficiency, on exchange rates and "news" and on international parity conditions.

Mackenzie, G. A.

PD February 1991. **TI** Estimating the Base of the Value-Added Tax (VAT) in Developing **AA** International Monetary Fund. **SR** International Monetary Fund Working Paper: WP/91/21; International Monetary Fund, Washington, DC 20431. **PG** 14. **PR** not available. **JE** H21, O33, O11. **KW** Developing Countries. Taxes. Technological Change.

AB Developing countries with VATs typically exempt a large number of goods and services. Following a brief discussion of the rationale for exemptions, this paper presents a formula for the base of a VAT with exemptions. Two basic adjustments must be made to the base without exemptions: subtraction of the value of sales to consumers of exempt industries and addition of intermediate sales of taxable inputs to exempt industries. The paper concludes with a derivation of the elasticity of a VAT with exemptions with respect to aggregate consumption and a discussion of the implications of technological change for the VAT base.

Madsen, Ib Fredslund

PD January 1990. **TI** Potential Debt Repudiation and Derivative Business: The Stick and the Carrot. **AA** University of Aarhus. **SR** Aarhus Institute of Economics Memo: 1990-4; Institute of Economics, University of Aarhus, Building 350, Universitetsparken, DK-8000 Aarhus C, DENMARK. **PG** 21. **PR** no charge. **JE** F34, G21. **KW** Commercial Banks. Loans. Developing Countries. Debt Crisis.

AB In this paper an attempt is made to integrate two topics related to third world commercial bank lending: potential debt repudiation and derivative business. The first topic has gained importance because of the partial defaults of a number of developing countries in the 1980's, and has been modeled by, for example, Eaton & Gersovitz (1981) and Sachs (1984), but these types of models all assume that one can examine the banks' loan decision isolated from the banks' other business interests in the countries. The second topic incorporates these other business interests, and has been introduced in connection with bank lending to developing countries by Cataquet (1986), but this model fails to take into account the question of potential repudiation of the debtor.

Madsen, Strojer E.

TI Intra-Industry Trade in Denmark and Ireland: A Comparison. **AU** Sorensen, Nils K.; Dalum, B.; Madsen, Strojer E.; Nielsen, Ulff-Moller J.

TI Intra-Industry Trade in Denmark and Ireland: A Comparison. **AU** Sorensen, Nils K.; Dalum, B.; Madsen, Strojer E.; Nielsen, Ulff-Moller J.

Mailath, George J.

TI Social Norms, Savings Behavior, and Growth. **AU** Cole, Harold L.; Mailath, George J.; Postlewaite, Andrew.

Marceau, Nicolas

PD March 1991. **TI** The Redistributive Role of Minimum Wage Legislation and Unemployment Insurance. **AU** Marceau, Nicolas; Boadway, Robin. **AA** Queen's University. **SR** Queen's Institute for Economic Research Discussion Paper: 805; Department of Economics, Queen's University, Kingston, Ontario, CANADA K7L 3N6. **PG** 26. **PR** $3.00 Canada; $3.00 U.S.; $3.50 foreign. **JE** J31, H24, J64, J38, D31. **KW** Minimum Wage. Unemployment Insurance. Income Distribution. Income Taxes.

AB The use of unemployment insurance and minimum wages as instruments for redistributing income are analyzed. The government is assumed to be able to implement an optimal income tax in an economy consisting of two ability-types of persons. The effect of introducing a minimum wage which induces involuntary unemployment combined with unemployment insurance is considered. Social welfare can be improved despite the possible revenue costs to the government if the policy causes a self-selection constraint to be weakened by enough. Sufficiency conditions are derived for this to be the case.

Margo, Robert A.

PD July 1991. **TI** The Labor Force Participation of Older Americans in 1900: Further Results. **AA** Vanderbilt University. **SR** National Bureau of Economic Research Working Paper Series on Historical Factors and Long-Run Growth: 27; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PG** 20. **PR** $2.00. **JE** N31, J64. **KW** Unemployment. Elderly. Labor Force.

AB Data from the public use sample of the 1900 census are used to study the proper labor force classification of older male Americans experiencing 6 months or more of unemployment in the previous year ("long-term unemployed"). In terms of their personal characteristics, the long-term unemployed were similar in many respects to persons with a gainful occupation. Because the probability of re-employment, conditional on unemployment, appears to have declined with age, the probability of experiencing long-term unemployment rose as persons aged. Census data are consistent with the view that the older an individual was upon entering the status of long-term unemployment, the greater the likelihood the person would leave the labor force in a short period of time. I conclude, however, that this is insufficient reason to exclude the long-term unemployed from the count of gainful workers in 1900, as has recently been advocated.

Masson, Paul R.

PD June 1991. **TI** Portfolio Preference Uncertainty and Gains from Policy Coordination. **AA** International Monetary Fund. **SR** International Monetary Fund Working Paper: WP/91/64; International Monetary Fund, Washington, DC 20431. **PG** 16. **PR** not available. **JE** E52, F31, F42, F41. **KW** Policy Coordination. Portfolio Choice. Monetary Policy. Exchange Rate.

AB International macroeconomic policy coordination is generally considered to be made less likely -- and less profitable -- by the presence of uncertainty about how the economy works. The present paper provides a counter-example, in which increased uncertainty about portfolio preference of investors makes coordination of monetary policy more beneficial. In particular, in the absence of coordination monetary authorities may respond to financial market uncertainty by not fully accommodating demands for increased liquidity, for fear of bringing about exchange rate depreciation. Coordinated monetary expansion would minimize this danger. A theoretical model incorporating an equity market is developed, and the stock market crash of October 1987 is discussed in the light of its implications for monetary policy coordination.

Mathieson, Donald J.

TI An Empirical Exploration of Exchange Rate Target-Zones. **AU** Flood, Robert P.; Rose, Andrew K.; Mathieson, Donald J.

Mayer, Colin P.

TI Corporate Finance in the Euromarkets and the Economics of Intermediation. **AU** Davis, E. P.; Mayer, Colin P.

PD August, 1991. **TI** Stock Market and Corporate Performance: A Comparison of Quoted and Unquoted Firms. **AU** Mayer, Colin P.; Alexander, Ian. **AA** Mayer: City University Business School, London. Alexander: City University Business School, London. **SR** CEPR Discussion Paper: 571; Centre for Economic Policy Research, 6 Duke of York Street, London SW1Y 6LA, United Kingdom. **PG** 99. **PR** Pounds 3.00 or $5.00. **JE** G32. **KW** Stock Markets. Short Termism. Corporate Finance and Investment.
AB This paper examines the influence of stock markets on corporate performance. It compares large private and publicly listed companies in the UK. It finds that, controlling for size and industry, quoted firms invest more and grow more rapidly than unquoted firms. They earn higher profits and payout 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, however, that firms are involuntarily driven to seek listings cannot be rejected.

McDonald, Donogh

TI Real Exchange Rates and Competitiveness: A Clarification of Concepts. **AU** Lipschitz, Leslie; McDonald, Donogh.

Mendelson, Haim

TI Volatility, Efficiency and Trading: Evidence from the Japanese Stock Market. **AU** Amihud, Yakov; Mendelson, Haim.

Mendoza, Enrique G.

PD May 1991. **TI** Efficient Arbitrage under Financial Indexation: The Case of Chile. **AA** International Monetary Fund. **SR** International Monetary Fund Working Paper: WP/91/49; International Monetary Fund, Washington, DC 20431. **PG** 20. **PR** not available. **JE** E44, E43, E52. **KW** Arbitrage. Financial Markets. Inflation. Monetary Policy.
AB Legal restrictions governing financial transactions in Chile have produced a system in which most financial assets are either 30-day non-indexed assets or 90-day indexed assets. This paper analyzes data on the rates of return of these assets to determine the extent to which efficient arbitrage takes place under conditions of partial financial indexation. The data cannot reject the joint hypothesis that participants in financial markets formulate their expectations rationally and that these markets operate efficiently. The data also shows that the indexed/non-indexed interest spread is an accurate predictor of future changes in inflation. The significant implications of these findings for the conduct of monetary policy are also discussed in some detail.

Milonas, Nikolaos T.

PD March 1991. **TI** Managers, Owners, and the Pricing of Risky Debt: An Empirical Analysis. **AU** Milonas, Nikolaos T.; Saunders, Anthony; Strock, Elizabeth; Travlos, Nickolaos G. **AA** Milonas: University of Massachusetts, Amherst. Saunders: New York University. Strock and Travlos: Boston College. **SR** New York University Salomon Brothers Center Working Paper: S-91-17; 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** 23. **PR** $5.00. **JE** G32, M21. **KW** Ownership Structure. Corporate Finance. Bonds. Private Debt.
AB One neglected aspect of the agency literature is the degree to which bond returns reflect the conflicts of interest over risk-taking between bondholders, managers and stockholders. Given the different incentives of (non-shareholding) managers relative to stock-holding managers with respect to project risk-taking, bondholders might rationally be expected to reflect these differential incentives in their required returns according to a firm's managerial ownership structure. Consequently, this study examines the relationship between managerial ownership structure and corporate bond returns and finds support for a nonmonotonic relationship between the two.

Miranda, Kenneth

TI Commodity Booms and Government Expenditure Responses. **AU** Gupta, Sanjeev; Miranda, Kenneth.

Mitzkewitz, Michael

TI Duopoly Strategies Programmed by Experienced Players. **AU** Selten, Reinhard; Mitzkewitz, Michael; Uhlich, Gerald R.

PD March 1991. **TI** Envy, Greed, and Anticipation in Ultimatum Games with Incomplete **AU** Mitzkewitz, Michael; Nagel, Rosemarie. **AA** Mitzkewitz: University of Bonn. Nagel: London School of Economics. **SR** Universitat Bonn Sonderforschungsbereich 303 - Discussion Paper: B-181; Sonderforschungsbereich 303 an der Universitat Bonn Adenauerallee 24-42, D5300 Bonn 1, GERMANY. **PG** 49. **PR** no charge. **JE** D82, D83, C70. **KW** Game Theory. Ultimatum Game. Incomplete Information. Learning.
AB This paper is about experiments on two versions of ultimatum games with incomplete information, called the offer games and the demand games. Game theory predicts for both versions very similar outcomes. Our experiments, however, show significant differences in behavior between offer and demand games. Using Selten's (1967) strategy method, we can reveal some of the subjects' reasoning principles leading to these differences. Each subject participated in eight periods of the same game against changing anonymous opponents, so we can study also the subjects' learning behavior.

Moldovanu, Benny

PD November 1990. **TI** Price Indeterminacy and Bargaining in a Market with Indivisibilities. **AA** University of Bonn. **SR** Universitat Bonn Sonderforschungsbereich 303 - Discussion Paper: B-171; Sonderforschungsbereich 303 an der Universitat Bonn, Adenauerallee 24-42, D-5300 Bonn 1, GERMANY. **PG** 27. **PR** no charge. **JE** D51, D61. **KW** Exchange Model. Competitive Equilibria. Bargaining Model. Negotiations. Exchange Economy.

AB We consider an exchange market for an indivisible, heterogeneous good where pairs of buyers and sellers bargain over prices in different transactions. A stable outcome in one negotiation can not be uniquely determined by the outcome of other negotiations, but the result of those transactions has influence through endogenously determined outside options. We prove existence of equilibria with the property that no agent wishes to rebargain. These bargaining equilibria form a subset of the set of Walrasian equilibria. In a replicated market we show that all Walrasian equilibria are already stable under rebargaining. We describe also a bargaining process which converges to the set of equilibria.

PD December 1990. **TI** Order Independent Equilibrium Payoffs. **AU** Moldovanu, Benny; Winter, Eyal. **AA** Moldovanu: University of Bonn. Winter: University of Pittsburgh. **SR** Universitat Bonn Sonderforschungsbereich 303 - Discussion Paper: B-174; Sonderforschungsbereich 303 an der Universitat Bonn, Adenauerallee 24-42, D-5300 Bonn 1, GERMANY. **PG** 10. **PR** no charge. **JE** C71, C72. **KW** Bargaining Game. Negotiations. Sequential Models.

AB We propose the study of order independent equilibrium payoffs in sequential models where the underlying situation can be considered symmetric with respect to the identity of "first movers". We exemplify our ideas using a sequential bargaining game based on an N-person game in coalitional form, without transferable utility. We study strategies which remain in equilibrium, and lead always to the same payoffs, no matter what the exact order of the "first" movers is. Our intuition is that such analysis should link the noncooperative approach to the cooperative one, where exact procedures do not matter. Here we relate payoffs in order independent equilibria to payoffs in the core of the underlying game.

Molho, Lazaros E.

PD February 1991. **TI** The Italian Lira in the Narrow ERM Band: The Challenge of Credibility. **AA** International Monetary Fund. **SR** International Monetary Fund Working Paper: WP/91/19; International Monetary Fund, Washington, DC 20431. **PG** 19. **PR** not available. **JE** F31, F21, E43, E31. **KW** Capital Mobility. Exchange Rate. Interest Rate. Inflation.

AB Under free capital mobility, a high inflation country pursuing a nonaccommodating exchange rate policy will have higher real interest rates than its lower inflation trading partners as long as that policy is not credible. If the policy gains credibility prior to inflation convergence, the sign of the real interest rate differentials and capital and reserve flows suggest that Italy's nonaccommodating exchange rate policy has become significantly more credible in 1989-90. As improved credibility further limits their monetary autonomy, the Italian authorities will have to rely more on fiscal and incomes policies to promote disinflation.

Monfort, A.

TI Simulation Based Inference: A Survey with Special Reference to Panel Data Models. **AU** Gourieroux, C.; Monfort, A.

TI A General Framework for Factor Models. **AU** Gourieroux, C.; Monfort, A.; Renault, E.

Montiel, Peter J.

TI Capital Mobility in Developing Countries -- Some Empirical Tests. **AU** Haque, Nadeem U.; Montiel, Peter J.

TI A General Equilibrium Model with Informal Financial Markets. **AU** Agenor, Pierre-Richard; Haque, Nadeem U.; Montiel, Peter J.

PD March 1991. **TI** Macroeconomic Implications of Real Exchange Rate Targeting in Developing Countries. **AU** Montiel, Peter J.; Ostry, Jonathan D. **AA** International Monetary Fund. **SR** International Monetary Fund Working Paper: WP/91/29; International Monetary Fund, Washington, DC 20431. **PG** 30. **PR** not available. **JE** F31, E42, E31, F32. **KW** Exchange Rate. Inflation. Current Account. Monetary Policy.

AB This paper analyzes the macroeconomic effects of a variety of exogenous and policy-induced real disturbances when the authorities target the level of the real exchange rate. It first discusses the implications-particularly for inflation and the current account-of targeting the rate at an "overdepreciated" level. The paper then examines the dynamic response of both output and inflation to a number of shocks. Further applications of the model, particularly as regards fiscal explanations of inflation, high-inflation plateaus, and money-based stabilization programs, are also considered.

TI Savings, Investment, and Growth in Eastern Europe. **AU** Borensztein, Eduardo; Montiel, Peter J.

PD July 1991. **TI** Real Exchange Rate Targeting under Capital Controls: Can Money Provide a Nominal Anchor? **AU** Montiel, Peter J.; Ostry, Jonathan D. **AA** **SR** International Monetary Fund Working Paper: WP/91/68; International Monetary Fund, Washington, DC 20431. **PG** 17. **PR** not available. **JE** E52, E61, F31, F41, E42. **KW** Money Supply. Prices. Exchange Rates. Monetary Policy. Capital Controls.

AB This paper examines the issue of whether the money supply can serve as a nominal anchor for the domestic price level under real exchange rate targeting. When capital controls are perfect so that there is complete separation between official and unofficial markets for foreign exchange, the domestic inflation rate can be stabilized, but only at the expense of a widening gap between official and parallel market exchange rates. When cross-transactions between the two markets are permitted, the steady state of the model is identical to that of a model without capital controls and, hence, the money supply cannot serve as a nominal anchor for the price level in the long-run. If capital controls are nevertheless maintained temporarily, and are known to be temporary, targeting the money supply fails to stabilize the rate of inflation even in the short-run.

Moore, Harvin C.

PD 1991. **TI** Trends and Characteristics of Recent LBO Performance. **AA** United States Department of the Treasury. **SR** New York University Salomon Brothers Center Working Paper: S-91-24; 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** 11. **PR** $5.00. **JE** G34, G33.

KW Buyouts. Bankruptcy. Corporate Debt.
AB This paper explores the financial results of a sample of firms that have undergone leveraged buyouts ("LBOs"). A sample of firms that "failed" following the buyout and a sample that "succeeded" are compared in order to arrive at conclusions regarding the types of structure or performance associated with "successful" LBOs and those associated with "failed" LBOs. Measures of financial performance used in the analysis are operating returns, margins, interest coverage, debt levels, revenues, firm size, and ZETA scores. Post-LBO performance is found to improve markedly for "successful" LBOs. Pre-buyout cash flow and return on asset trends, margins, and LBO date ZETA scores are found to be predictive of success or failure. Debt levels and increases in debt associated with the buyout do not appear predictive. Companies with better pre-buyout performance appear better able to handle new debt and to succeed.

Moore, Michael J.

PD August, 1991. **TI** Financial Innovation and the Neutrality of Money. **AA** School of Finance and Information, The Queens University of Belfast. **SR** CEPR Discussion Paper: 569; Centre for Economic Policy Research, 6 Duke of York Street, London SW1Y 6LA, United Kingdom. **PG** 37. **PR** Pounds 3.00 or $5.00. **JE** 311, 432, 621. **KW** Innovation. Monetary Policy. Demand for Money. IS-LM Curve.
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 of this are explored in an intertemporal optimizing macroeconomic model with perfect foresight. The main conclusion is that financial innovation of this kind can lead to co-ordination failure in the financial sector. Consequently changes in the nominal money stock can have real effects. These results are illustrated diagramatically 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 the Phillips curve may be connected.

Moreno, Diego

PD May 1991. **TI** Nonmanipulable Decision Mechanisms for Economic Environments. **AA** University of Arizona. **SR** University of Arizona Economics Working Paper: 91-6; Department of Economics, Bldg #23, University of Arizona, Tucson, AZ 85721. **PG** 38. **PR** $2 Canada and U.S.; $3 Overseas by air. **JE** D71, D72, D74. **KW** Dictatorship. Conflict. Social Choice. Political Economy.
AB In studying the problem of selecting a social alternative from a given feasible set, it is customary in the social choice literature to (implicitly) assume that each dimension of the outcome is of public interest (i.e., each individual's welfare depends on every dimension of the outcome). Thus, the scope of the conclusions obtained is very limited. Here I consider social decision problems with and without that public character and I show that the same negative results arise in most cases, namely that only dictatorial mechanisms produce Pareto optimal outcomes (they must simply be minimally responsive to the participant's preferences), which is a further indication of their deeply pessimistic character.

PD July 1991. **TI** On Recursive Learning in Noncooperative Games. **AU** Moreno, Diego; Walker, Mark. **AA** University of Arizona. **SR** University of Arizona Economics Working Paper: 91-20; Department of Economics, Bldg #23, University of Arizona, Tucson, AZ 85721. **PG** 25. **PR** $2 Canada and U.S.; $3 Overseas by air. **JE** D43, D83, C72, C62. **KW** Learning. Nash Equilibrium. Cournot Equilibrium. Duopoly Model. Noncooperative Games.
AB We investigate the stability properties of the Nash equilibrium when players use recursive methods to predict their opponents' actions. In a simple duopoly model, we apply Ljung's method of studying convergence of recursive algorithms, and we show that Ljung's projection operators, which have recently been used by economists to establish convergence to rational expectations equilibrium, are not appropriate for the analysis of noncooperative games because they imply forecasting behavior that is not "decentralized." Without projection operators, we establish convergence to the Nash equilibrium for a simple recursive forecasting algorithm by establishing directly a boundedness condition necessary to apply Ljung's results. It is not clear whether there are similar methods for verifying the boundedness condition in a more general class of games.

PD July 1991. **TI** Convergence Theorems for a Class of Recursive Stochastic Algorithms. **AU** Moreno, Diego; Walker, Mark. **AA** University of Arizona. **SR** University of Arizona Economics Working Paper: 91-19; Department of Economics, Bldg #23, University of Arizona, Tucson, AZ 85721. **PG** 37. **PR** $2 Canada and U.S.; $3 Overseas by air. **JE** D83, C63, C44. **KW** Stochastic Algorithms. Learning. Projection Algorithms.
AB For linear versions of two kinds of algorithms introduced by Ljung for estimation and forecasting, we provide a unified treatment and uncluttered theorems and proofs. These kinds of algorithms have already been used by several authors to model the process by which participants might learn their part in an economic or strategic equilibrium and to investigate the question whether the learning process converges to expectations that are in equilibrium. The clarity we bring to the analysis should make it relatively easy to apply such algorithms and should serve as a foundation for determining whether particular nonlinear algorithms of this kind converge. This clarity enables us, in particular, to (a) give a correct proof for both projection and nonprojection algorithms in the linear case; (b) suggest how a central assumption can be strengthened so that an existing incorrect proof for more general algorithms might be made valid; and (c) identify the obstacle to proving convergence for "decentralized" projection algorithms.

Mundell, Robert A.

PD April 1991. **TI** Do Exchange Rates Work? Another View. **AA** Columbia University. **SR** International Monetary Fund Working Paper: WP/91/37; International Monetary Fund, Washington, DC 20431. **PG** 52. **PR** not available. **JE** F31, F32, F33. **KW** Exchange Rate. Current Account. International Monetary System.
AB This paper investigates the role of exchange rates in balance of payments theories. It explores the sixteen approaches to the balance of payments, the concept of an "equilibrium" trade balance and sequential "stages" of the current account. It examines fiscal and demographic influences on the U.S. deficit. The final section considers the breakdown of the international monetary system after World Wars I and II; an evaluation of alternative proposals to correct the defects of the system; and an examination of the extent to which deficits of

reserve countries have their origins in systemic problems.

Nadiri, M. Ishaq

TI Investment, Depreciation, and Capital Utilization: Theoretical and Simulation Results. **AU** Bernstein, Jeffrey I.; Nadiri, M. Ishaq.

Nagamochi, Hiroshi

TI On Sparse Subgraphs Preserving Connectivity Properties. **AU** Frank, Andras; Ibaraki, Toshihide; Nagamochi, Hiroshi.

Nagel, Rosemarie

TI Envy, Greed, and Anticipation in Ultimatum Games with Incomplete **AU** Mitzkewitz, Michael; Nagel, Rosemarie.

Nakamura, Leonard I.

PD March 1991. **TI** Delegated Monitoring with Diseconomies of Scale. **AA** Federal Reserve Bank of Philadelphia. **SR** Federal Reserve Bank of Philadelphia Research Working Paper: 91-9; Working Papers, Department of Research, Federal Reserve Bank of Philadelphia, 10 Independence Mall, Philadelphia, PA 19106. **PG** 29. **PR** no charge except overseas airmail, $2.00; checks/money orders in U.S. funds payable to Federal Reserve Bank of Philadelphia. **JE** G21, G33, G32. **KW** Debt. Bankruptcy. Banking.

AB This paper shows that the standard debt contract is the optimal form of repayment contract for the asset side of a financial intermediary facing weakly convex bankruptcy costs. The standard debt contract is shown to minimize bankruptcy costs when borrowers have independent risk, and it is also shown to be optimal if borrowers have positively related risk and contracts are restricted to be weakly positive in returns. As a consequence, the paper motivates the microfoundations for a financial intermediary which closely resembles a competitive commercial bank.

Nannestad, Peter

TI The Demand for the Public Sector in the Rich Welfare State of Denmark Two Polls from 1990. **AU** Paldam, Martin; Nannestad, Peter.

PD March 1991. **TI** Knowledge about the Economy at the Mass Level. **AU** Nannestad, Peter; Paldam, Martin. **AA** University of Aarhus. **SR** Aarhus Institute of Economics Memo: 1991-11; Institute of Economics, University of Aarhus, Building 350, Universitetsparken, DK-8000 Aarhus C, DENMARK. **PG** 24. **PR** no charge. **JE** D83, A14, C93. **KW** Polls. Public Information. Common Knowledge.

AB The purpose of this paper is to analyze what people know about the economy. The analysis is based on the first three of a set of polls (conducted by telephone interviews by IFKA, Institut for Konjunkturanalyse) of 600 randomly selected Danes in February 1990, in August 1990, and in February 1991. The analysis covers eight questions - analyzing 4 macro-variables. This is, of course, few variables to analyze, but we have a dozen background variables.

Nesetril, Jaroslav

TI The Core of a Graph. **AU** Hell, Pavol; Nesetril, Jaroslav.

TI Fast and Slow Growing (A Combinatorial Study of Unprovability). **AU** Loebl, Martin; Nesetril, Jaroslav.

Nett, Lorenz

PD October 1990. **TI** Voluntary Provision of Public Goods and Non-Neutral Income Taxation. **AU** Nett, Lorenz; Peters, Wolfgang. **AA** University of Bonn. **SR** Universitat Bonn Sonderforschungsbereich 303 - Discussion Paper: A-323; Sonderforschungsbereich 303 an der Universitat Bonn, Adenauerallee 24-42, D-5300 Bonn 1, GERMANY. **PG** 22. **PR** no charge. **JE** H41, H24, H21. **KW** Income Taxes. Public Goods. Second Best. Welfare.

AB This paper analyzes the influence of income taxation on the voluntary provision of public goods. Besides a qualitative characterization of equilibrium, Pareto improving income taxes are analyzed. We compare the extent of public good supply in the case of second best welfare optima in the noncompetitive and the competitive case to the first best Samuelson rule. Simulation studies illustrate the comparative static analysis of the equilibrium if the tax rate increases, especially with respect to voluntary individual contributions. Other results demonstrate that the Rawlsian criterion in the noncompetitive tax case may lead to lower tax rates than the utilitarian one. Additionally equitability as defined by Varian is not fulfilled for any income tax.

PD October 1990. **TI** The Role of Sunk Costs in Entry Deterrence in a Mixed Oligopolistic Market. **AA** University of Bonn. **SR** Universitat Bonn Sonderforschungsbereich 303 - Discussion Paper: A-324; Sonderforschungsbereich 303 an der Universitat Bonn, Adenauerallee 24-42, D-5300 Bonn 1, GERMANY. **PG** 31. **PR** no charge. **JE** L32, L13, D43. **KW** Public Enterprises. Sunk Costs. Oligopoly.

AB The paper deals with a duopolistic situation in which a public firm (or a corporation) faces market entry of a private firm. In contrast to existing literature it is assumed that the incumbent wants to maximize output resp. his market share under a zero profit constraint. We analyze a three-stage game where firms first choose their capacity, subsequently, and afterwards output, simultaneously. The market allocation is determined applying the concept of subgame perfect equilibrium. We consider the qualitative properties of the market allocation. Dixit suggests that irreversible capital accumulation gives a private incumbent the possibility for entry deterrence. In contrast we will see that a public incumbent is restricted by sunk costs.

Newbery, David M. G.

TI Competition in the British Electricity Spot Market. **AU** Green, Richard; Newbery, David M. G.

PD August, 1991. **TI** Sequencing the Transition. **AA** Department of Applied Economics, Cambridge. **SR** CEPR Discussion Paper: 575; Centre for Economic Policy Research, 6 Duke of York Street, London SW1Y 6LA, United Kingdom. **PG** 37. **PR** Pounds 3.00 or $5.00. **JE** L41, P23, P52. **KW** Eastern Europe. Sequencing. Tax Reform. Competition Policy.

AB The inefficiency of Soviet-type economies results from their monopolized production structure, which makes soft budget constraints almost inevitable, as enterprises have bargaining power and must face expropriative tax rates for macroeconomic stability. Systemic reform aims to improve incentives, and if this is to be achieved with macro-stability, enterprises must be demonopolized. Most sequencing issues resolve into three key concerns: ensuring or restoring macroeconomic stability; not ruling out options for subsequent reforms, specifically those intended to increase competition; and maintaining support for completing the reform process.

Newell, Andrew

PD June 1991. **TI** Endogenous Separations in a Matching Model. **AU** Newell, Andrew; Symons, James. **AA** Newell: University of Sussex and London School of Economics. Symons: University College London and London School of Economics. **SR** London School of Economics Centre for Economic Performance Discussion Paper: 35; Centre for Economic Performance, London School of Economics and Political Science, Houghton Street, London WC2A 2AE, UNITED KINGDOM. **PG** 29. **PR** no charge. **JE** J41, E24. **KW** Interest Rates. Unemployment. Employment.

AB The paper develops a model in which employment is an enduring rent-sharing relationship. In each period rents are subject to a transient disturbance, and the parties weigh the future stream of benefits against current dis-benefits. The analysis suggests a strong correlation between real interest rates and aggregate unemployment because high real interest rates make the employment relationship more fragile. This correlation is demonstrated for a number of time series of aggregate national data.

PD June 1991. **TI** The Causes of Ireland's Unemployment. **AU** Newell, Andrew; Symons, James. **AA** Newell: University of Sussex and London School of Economics. Symons: University College London and London School of Economics. **SR** London School of Economics Centre for Economic Performance Discussion Paper: 32; Centre for Economic Performance, London School of Economics and Political Science, Houghton Street, London WC2A 2AE, UNITED KINGDOM. **PG** 37. **PR** no charge. **JE** O52, J64, E24, E32. **KW** Ireland. Unemployment.

AB We outline a small model of the Irish labor market and use it to explain what has happened over the last 10 years. We conclude that Irish unemployment problems in the 1980's were due to international demand-side factors, such supply-side factors as taxes and unemployment relief, and demographics, in the approximate proportion 4:2:3.

Ng, Yew-Kwang

PD 1991. **TI** Divergence between Utility and Dollar Values of Life as One Ages: Solving the Parish Paradox and Raising Perplexing Policy Issues. **AA** Monash University. **SR** Universitat Bonn Sonderforschungsbereich 303 - Discussion Paper: A-270; Sonderforschungsbereich 303 an der Universitat Bonn, Adenauerallee 24-42, D-5300 Bonn 1, GERMANY. **PG** 49. **PR** no charge. **JE** J17, D31, H21. **KW** Value of Life. Wealth. Taxes.

AB While the utility value of life may decrease monotonically with age, the dollar value may increase dramatically until a fairly old age (by tenfold to age 60 for one plausible set of parameters). Crucial for this result is a positive real rate of interest which makes accumulation desirable, leading to a lower marginal utility of money when one gets older, explaining the divergence. The time constraint on consumption, the utility of wealth ownership, and capital market imperfection accentuate this divergence which raises perplexing questions as to which value of life should be used and whether the old should be taxed and the young subsidized.

Nickell, Stephen

PD March 1991. **TI** Productivity Growth in U.K. Companies 1975-86. **AU** Nickell, Stephen; Wadhwani, Sushil; Wall, Martin. **AA** Nickell: Oxford University. Wadhwani: London School of Economics. Wall: Coopers and Lybrand. **SR** London School of Economics Centre for Economic Performance Discussion Paper: 26; Centre for Economic Performance, London School of Economics and Political Science, Houghton Street, London WC2A 2AE, ENGLAND. **PG** 45. **PR** no charge. **JE** J24, L23, L11. **KW** Market Share. Productivity.

AB The main empirical conclusions of this paper are: (i) Higher levels of debt are associated with increases in both the level and the growth rate of productivity. (ii) Increases in market share are associated with falls in the level of productivity, while companies with a higher market share experience higher productivity growth. (iii) Productivity growth was higher in union firms during 1979-89, and might have been lower during 1975-78.

Nordhaus, William D.

PD June 1991. **TI** Stabilizing the Soviet Economy. **AA** Yale University. **SR** Yale Cowles Foundation Discussion Paper: 982; Yale University, Cowles Foundation, Box 2125, Yale Station, New Haven, CT 06520. **PG** 60. **PR** $2.00. **JE** E61, E63, P21, P27. **KW** Government Spending. Budget Deficit. Soviet Union.

AB The proposals in our policy memorandum on economic stabilization -- a restrictive monetary policy and a fiscal policy that eliminates the government deficit -- are shaped by our view that the Soviet Union today faces a mounting economic crisis. As we emphasized in our discussion in the policy memorandum, problems include issues of inefficient economic structures, distorted prices, large macroeconomic imbalances, divided government, and lack of popular support for steps to stabilize and restructure the economy.

PD July 1991. **TI** The Ecology of Markets. **AA** Yale University. **SR** Yale Cowles Foundation Discussion Paper: 988; Yale University, Cowles Foundation, Box 2125, Yale Station, New Haven, CT 06520. **PG** 28. **PR** $2.00. **JE** F01, F02, O19. **KW** Economic Development. Market Failure. International Coordination.

AB The notion that "everything is connected to everything else" runs through all of modern economics. Economies are connected in the production sphere through the inputs and outputs that circulate through the world; they are connected through the exchange of goods and services; and they are connected by flows of funds through which some people or nations finance the economic activity of others. It is generally believed that the great macroeconomic crises of this century -- the periodic banking panics, the Great Depression of the 1930's, the debt crisis of the 1980's, the breakdown in socialist economies of today -- occurred because the systems failed, not because of a simultaneous burst of individual economic malfunctions. Furthermore, if some future environmental apocalypse occurs, it will be the result of a failure of markets to incorporate the appropriate signals of scarcity into prices.

O'Flaherty, Brendan

TI Government Policy, Commitment Dominance and Prisoner's Dilemma. **AU** Hillier, Brian; Klein, Daniel B.; O'Flaherty, Brendan.

O'Rourke, Kevin

PD December 1990. **TI** International Migration and

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Wage Rates in Twentieth Century Ireland. **AA** Columbia University. **SR** Columbia First Boston Series in Money, Economics and Finance Working Paper: FB-90-18; Columbia University, Graduate School of Business, First Boston Series, New York, NY 10027. **PG** 39. **PR** $5.00 academic and non-profit institution; $6.00 corporations (add $1.00 for foreign requests). **JE** F22, J31, J61. **KW** Migration. Wages. Unemployment. England. Ireland. Labor Mobility.

AB There is broad agreement that the Irish and British labor markets are closely linked by migration flows. This paper compares wage rates in Dublin and London over the period 1926-1983 in three industries: the building and construction industry, the engineering industry, and the printing and publishing industry. Surprisingly, Irish wages exceeded British wages during much of this period, in both nominal and real terms. Irish unemployment was consistently higher in Ireland than in Britain in these three industries, suggesting that the Todaro model may be of help in explaining migration from Ireland to Britain in the twentieth century.

O'Shaughnessy, Terry

PD July 1991. **TI** The Taxing Issue of Queues in Soviet-Type Economies. **AA** University of Oxford. **SR** Oxford Applied Economics Discussion Paper: 116; Institute of Economics and Statistics, St. Cross Building, Manor Road, Oxford OX1 3UL, ENGLAND. **PG** 34. **PR** not available. **JE** P23, P22, P27. **KW** Socialism. Prices. Subsidies. Consumption.

AB In Soviet-type economies goods are often sold at subsidized prices and allocated to consumers via queues. In such circumstances raising prices will yield efficiency gains but there may well be adverse redistributional effects. This article examines the equity-efficiency trade-off under a subsidy-queue system and compares it with the equity-efficiency trade-off available with a tax-benefit system of the sort found in market economies. If this trade-off is judged in terms of inequality in consumption the subsidy-queue system may look attractive, but not if the trade-off is judged in terms of inequality in utility.

Olson, Craig A.

PD June 1991. **TI** Negotiated Settlements and Learning from the Arbitration Experience. **AU** Olson, Craig A.; Rau, Barbara. **AA** Olson: Princeton University and University of Wisconsin, Madison. Rau: University of Wisconsin, Madison. **SR** Princeton Industrial Relations Section Working Paper: 285; Department of Economics, Princeton University, Princeton, NJ 08544-2098. **PG** 45. **PR** $1.50. **JE** J52, J51. **KW** Arbitration. Dispute Settlement. Wages.

AB In final offer arbitration the decision of the arbitrator provides the parties with information about the preferences of the arbitrator that were not available prior to the award. A union (employer) victory tells the parties the fair wage belief of the arbitrator lies above (below) the mean of the parties' final offers. With inter-arbitrator reliability and temporal stability in the characteristics of the bargaining pair, the award will alter the parties' expectations about the preferences of an arbitrator in the next bargaining round and change negotiated settlements. The evidence from Wisconsin teacher and school board negotiations supports this hypothesis. The change in the negotiated wage increase from the round prior to an award to the round after an award is about 2 percentage points greater when the union's final offer is chosen than when the employer's offer is selected.

Osband, Kent

PD April 1991. **TI** Economic Crisis in a Shortage Economy. **AA** International Monetary Fund. **SR** International Monetary Fund Working Paper: WP/91/38; International Monetary Fund, Washington, DC 20431. **PG** 21. **PR** not available. **JE** P23, D52, O17, O11. **KW** Socialism. Economic Reform. Wage Controls. Rationing. Goods Market. Economic Development.

AB It is not unusual for reforming socialist economies to relax wage controls without hardening budget constraints on enterprises or freeing consumer goods prices. This policy can be dangerously destabilizing. While higher wages permit workers to purchase more of some goods, they also tend to exacerbate shortages and to breed waste and corruption. Beyond a certain level, economy-wide wage hikes will worsen worker welfare. This is true regardless of whether deficit goods are strictly rationed, are sold randomly at official prices to queuing workers, or are offered to workers by "insiders" only at black market prices. However, the form of allocation does influence output and worker welfare.

PD June 1991. **TI** General Equilibrium under Shortage: A Generalized Barro-Grossman Model. **AA** International Monetary Fund. **SR** International Monetary Fund Working Paper: WP/91/59; International Monetary Fund, Washington, DC 20431. **PG** 29. **PR** not available. **JE** D52, P23, E13. **KW** Shortages. Spillovers. Goods Market. Government Spending.

AB In several recent articles, the Barro-Grossman model of general equilibrium under shortage has been modified to incorporate money demand and alternative retail sales mechanisms. This paper extends this work to allow for spillovers in deficit goods markets (modeled as feedback of black market prices on the real value of nominal money balances). Comparative statics analysis confirms the conventional view, recently challenged in the literature, that government expenditure in a shortage economy tends to reduce output. The conventional view associating shortage with higher savings is, however, substantially qualified. The model appears to be more consistent than previous models with the available empirical evidence, and offers insights into the consequences of price and monetary reform in shortage economies.

PD August 1991. **TI** Index Number Biases during Price Liberalization. **AA** International Monetary Fund. **SR** International Monetary Fund Working Paper: WP/91/76; International Monetary Fund, Washington, DC 20431. **PG** 20. **PR** not available. **JE** P22, P24, C43. **KW** Socialism. Centrally Planned Economy. Free Market. Prices.

AB When a formerly centrally-planned economy frees prices and allows or compels producers to respond to market signals, conventional measures tend to severely overstate short-run output decline and inflation. In part the overstatement stems from neglect of private sector activity, or from belated recognition of inflation previously disguised as quality improvements. Even when individual prices and outputs are correctly measured, however, shifts in relative prices consequent to price decontrol create a serious aggregation problem. Moreover, the standard indices ignore the deflationary trends in black markets. Superior growth and inflation indices are devised using a combination of official and black market prices.

Ostmann, Axel

PD October 1988. **TI** Theorie und Anwendung Einfacher Spiele. **AA** University of Bonn. **SR** Universitat Bonn Sonderforschungsbereich 303 - Discussion Paper: B-101; Sonderforschungsbereich 303 an der Universitat Bonn, Adenauerallee 24-42, D-5300 Bonn 1, GERMANY. **PG** 26. **PR** no charge. **JE** B41, C70. **KW** Game Theory. Simple Games. Economic Methodology.
AB Paper in German.

Ostry, Jonathan D.

TI Response of the Equilibrium Real Exchange Rate to Real Disturbances in Developing Countries. **AU** Khan, Mohsin S.; Ostry, Jonathan D.

TI Macroeconomic Implications of Real Exchange Rate Targeting in Developing Countries. **AU** Montiel, Peter J.; Ostry, Jonathan D.

TI Real Exchange Rate Targeting under Capital Controls: Can Money Provide a Nominal Anchor? **AU** Montiel, Peter J.; Ostry, Jonathan D.

Oswald, Andrew J.

TI Self-Employment and Mrs. Thatcher's Enterprise Culture. **AU** Blanchflower, David G.; Oswald, Andrew J.

Otoo, Maria Ward

PD May 1991. **TI** Emerging Labor Shortages and Real Wages in the 1990s. **AU** Otoo, Maria Ward; Shack-Marquez, Janice. **AA** Board of Governors of the Federal Reserve System. **SR** Board of Governors of the Federal Reserve System Economic Activity Section Working Paper Series: 120; Board of Governors of the Federal Reserve System, Economic Activity Section, Stop #80, Federal Reserve Board, Washington, D.C. 20551. **PG** 28. **PR** no charge. **JE** J11, J21, J31. **KW** Labor Shortages. Wages. Demographics. Labor Force. Labor Supply.
AB Significant demographic forces are in train that have far-reaching implications for the U.S. economy. This paper investigates the impact that these potential shortages likely will have on aggregate and relative growth in real wages. We employ a transcendental logarithmic production function to examine the extent to which youths, prime-age men, prime-age women, and older workers are substitutes in production. Youths are found to be complementary with all other labor groups while prime-age men, prime-age women, and older workers are found to be substitutes in production.

Overgaard, Per Baltzer

PD October 1989. **TI** Price as a Signal of Quality: A Discussion of Equilibrium Concepts in Signaling Games. **AA** University of Aarhus and Universite Catholique de Louvain. **SR** Aarhus Institute of Economics Memo: 1990-1; Institute of Economics, University of Aarhus, Building 350, Universitetsparken, DK-8000 Aarhus C, DENMARK. **PG** 40. **PR** no charge. **JE** D82, L15, L12, C72. **KW** Product Quality. Noncooperative Games. Signaling.
AB This paper discusses noncooperative equilibrium notions that have recently been applied to signaling games. As a simple illustrative model we analyze the role of prices as signals when consumers are uncertain about product quality before purchase. We analyze the incentives of a high quality firm to separate from a low quality firm through its pricing strategy. Starting from the set of sequential equilibria we show that by imposing stronger restrictions on the out-of-equilibrium inferences of the consumers, we are led to a generically unique (separating) equilibrium outcome. The paper offers a critical assessment of the formal game theoretical refinements needed to reach this conclusion, and argues that other outcomes merit attention because of their economic content.

PD November 1989. **TI** On the Nature of Advertising and its Role as a Signal of Quality. **AA** University of Aarhus and Universite Catholique de Louvain. **SR** Aarhus Institute of Economics Memo: 1990-2; Institute of Economics, University of Aarhus, Building 350, Universitetsparken, DK-8000 Aarhus C, DENMARK. **PG** 35. **PR** no charge. **JE** D82, L15, M37, D21. **KW** Product Quality. Advertising.
AB The paper explores a firm's use of advertising expenditures as a transmitter of information to uninformed consumers. Featuring a refined (noncooperative) equilibrium notion, we show that the role of advertising as a signal of quality depends critically on its nature. If advertising has direct information content it will be used as a complement to prices to signal quality. If advertising is purely dissipative, it is an inefficient signal and will not be used to signal quality. The unique self-enforcing equilibrium is fully distorted upwards and informative advertising expenditures downwards relative to the full information optimum. Hence, a high quality firm sacrifices potential customers to allow the remaining consumers to infer quality correctly. Contrary to most of the literature, we show that "best buys" are not advertised most heavily.

PD December 1989. **TI** Equilibrium Effects of Potential Entry when Prices Signal Quality. **AA** University of Aarhus and Universite Catholique de Louvain. **SR** Aarhus Institute of Economics Memo: 1990-3; Institute of Economics, University of Aarhus, Building 350, Universitetsparken, DK-8000 Aarhus C, DENMARK. **PG** 34. **PR** no charge. **JE** D82, L15, D21, L12, D24. **KW** Uncertainty. Entry. Prices. Signaling. Product Quality. Noncooperative Equilibrium.
AB We analyze the effects of introducing potential entry by an uninformed high quality firm into the model of Overgaard (1989), where a privately informed incumbent uses the price to signal product quality to uninformed consumers. Contrary to most of the literature on potential entry, we show that the effects of potential entry may be to distort the pre-entry price upwards compared to the no entry case, and thus to decrease consumer surplus in the pre-entry period. When separating equilibria exist the quality uncertainty is resolved in the unique self-enforcing equilibrium, and the pre-entry "limit pricing" does not limit entry compared to the full information case. Thus, not only the high quality firm but also the consumers suffer a decrease in the present value of payoffs as a result of potential entry by a high quality firm.

PD January 1990. **TI** Moral Hazard in Repeated Quality Selection: An Equilibrium Analysis of Repeated Purchase when Information is both Imperfect and Incomplete. **AA** University of Aarhus and Universite Catholique de Louvain. **SR** Aarhus Institute of Economics Memo: 1990-6; Institute of Economics, University of Aarhus, Building 350, Universitetsparken, DK-8000 Aarhus C, DENMARK. **PG** 38. **PR** no charge. **JE** D82, L14, L15, D21. **KW** Moral Hazard. Imperfect Information. Market Efficiency. Product Quality.
AB This paper presents a partial resolution of moral hazard

problems, which is relevant for a class of games of repeated market interaction. In the setting of this paper the moral hazard problem arises from consumer ignorance about a producer's choice of quality at each stage/date. By traditional arguments, infinite repetition of the strategic interaction is necessary to ensure that market efficiency (i.e. a high quality product) can be supported by perfect (hence sequential) equilibrium strategies. In the paper we argue that this conclusion has to be reassessed when consumer information is not only imperfect, which is the case in a traditional analysis of the moral hazard problem, but also incomplete. We show that only a small measure of informational incompleteness, which seems hard to rule out a priori, is sufficient to alter the conclusions in a non-trivial way. In particular, we conclude that when the game is relatively long (but finite) market efficiency may be attained for an extended period of time in a sequential equilibrium, and only towards the end of the game will market performance be severely impeded by adverse incentive effects.

PD February 1990. **TI** Adverse Producer Incentives and Product Quality when Consumers Are Short-Term Players. **AA** University of Aarhus and Universite Catholique de Louvain. **SR** Aarhus Institute of Economics Memo: 1990-7; Institute of Economics, University of Aarhus, Building 350, Universitetsparken, DK-8000 Aarhus C, DENMARK. **PG** 24. **PR** no charge. **JE** D82, L14, L15, D21. **KW** Private Information. Monitoring. Product Quality. Reputation.
AB If an infinitely lived monopolistic firm has private information about its quality possibility set in each period, the actions of the firm are subject to moral hazard. Consequently, the strategies of the finitely lived consumers must provide incentives for the firm to produce the highest possible quality. For any discount factor the costs of providing incentives are strictly positive, and we conclude that even the most patient firm cannot attain its first-best payoff. In order to give the firm sufficient incentives to supply the maximum quality when the possibility set is favorable, the firm must be punished for failing to perform when the set is unfavorable. The best perfect equilibrium strategy profile specifies that the firm always produces the highest possible quality given the possibility set, and it follows that the punishment needed to maintain the incentives is socially suboptimal, since the punishment is carried out with a positive probability.

PD April 1990. **TI** Stochastic Quality and Moral Hazard in an Infinitely Repeated Market Interaction. **AA** University of Aarhus and Universite Catholique de Louvain. **SR** Aarhus Institute of Economics Memo: 1990-17; Institute of Economics, University of Aarhus, Building 350, Universitetsparken, DK-8000 Aarhus C, DENMARK. **PG** 31. **PR** no charge. **JE** L12, L14, D82. **KW** Moral Hazard. Market Efficiency. Monopoly. Product Quality.
AB A monopolist firm supplies an experience good in each of infinitely many periods. The quality choice of the firm in each period is imperfectly observed ex post by consumers, and accordingly the consumers cannot condition on the full history of the game. The firm's actions are thus subject to moral hazard. To solve the moral hazard problem it then becomes important that the publicly observable outcomes convey enough information about the firm's actions to allow consumers to specify contingent strategies in a sufficiently flexible manner. Under a weak condition on the probability distribution over the publicly observable outcomes we show that any Pareto efficient outcome can be approximated arbitrarily closely in equilibrium as the players become increasingly patient. Contrary to the Folk Theorem under perfect ex-post observability, we show that the first-best from the point of view of the firm can never be attained exactly when the rate of time preference is strictly positive.

TI Manufacturer-Retailer Relations when the Wholesale Price Signals Demand Intensity. **AU** Albaek, Svend; Overgaard, Per Baltzer.

Oxley, J. G.

PD February 1991. **TI** Tutte Polynomials Computable in Polynomial Time. **AU** Oxley, J. G.; Welsh, D. J. A. **AA** Oxley: Louisiana State University. Welsh: University of Bonn and Mathematical Institute, Oxford. **SR** Universitat Bonn Sonderforschungsbereich 303 - Discussion Paper: 91685-OR; Sonderforschungsbereich 303 an der Universitat Bonn, Adenauerallee 24-42, D-5300 Bonn 1, GERMANY. **PG** 10. **PR** no charge. **JE** C63, C60. **KW** Tutte Polynomial. Matroids. Graph Theory.
AB We show that for any accessible class of matroids of bounded width, the Tutte Polynomial is computable in polynomial time.

Ozeki, Yuzuru

TI The Japanese Yen as an International Currency. **AU** Tavlas, George S.; Ozeki, Yuzuru.

Pagano, Marco

PD July, 1991. **TI** Dually-Traded Italian Equities: London vs. Milan. **AU** Pagano, Marco; Roell, Ailsa. **AA** Pagano: Universita di Napoli. Roell: Department of Economics, London School of Economics. **SR** CEPR Discussion Paper: 564; Centre for Economic Policy Research, 6 Duke of York Street, London SW1Y 6LA, United Kingdom. **PG** 31. **PR** Pounds 3.00 or $5.00. **JE** 313. **KW** Competition Among Stock Exchanges. Dealership Markets. Auction Markets.
AB Italian blue chip stocks are now actively traded in two markets: the dealers' market of SEAQ International in London and the traditional auction market in Milan. Analysing their interaction, we find that: i) The London market for Italian equities has grown rapidly relative to the Milan stock exchange, but has not reduced trading volume in Milan; ii) Milan prices are generally - but not always - within London quotes; iii) London market makers appear to use price information from Milan to set their quotes, but this informational spillover is rather weak; iv) the growth of the London market for Italian stocks is probably due less to cost factors than to its other characteristics, such as greater depth and immediacy, location and other features typical of dealership markets.

PD October, 1991. **TI** Information Sharing in Credit Markets. **AU** Pagano, Marco; Jappelli, Tullio. **AA** Pagano: Universita Bocconi. Jappelli: Instituto di Studi Economici, I.U.N.. **SR** CEPR Discussion Paper: 579; Centre for Economic Policy Research, 6 Duke of York Street, London SW1Y 6LA, United Kingdom. **PG** 55. **PR** Pounds 3.00 or $5.00. **JE** D82, G21, G29, N20, P52. **KW** Information Sharing. Asymmetric Information Credit Markets. Mobility.
AB We present a model with adverse selection where information sharing between lenders arises endogenously. Lenders' incentivesto share information about borrowers are

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positively related to the mobility and heterogeneity of borrowers, to the size of the credit market and to advances in information technology; on the other hand, such incentives are reduced by the fear of competition from potential entrants. In addition, information sharing increases the volume of lending when adverse selection is so severe that safe borrowers drop out of the market. These predictions are supported by international and historical evidence in the context of the consumer credit market. Information sharing is widespread in countries, such as Japan, the UK and the US, where the geographical mobility of households is high and the consumer credit market is deep; while in countries with low mobility and thin consumer credit markets, e.g. Belgium and Italy, information sharing is mimimal. The same predictions are also supported by the US historical data.

Pakes, Ariel

PD July 1991. **TI** Dynamic Structural Models: Problems and Prospects. Mixed Continuous Discrete Controls and Market Interactions. **AA** Yale University. **SR** Yale Cowles Foundation Discussion Paper: 984; Yale University, Cowles Foundation, Box 2125, Yale Station, New Haven, CT 06520. **PG** 106. **PR** $2.00. **JE** C51, C52, C31. **KW** Dynamic Model. Structural Model.

AB This paper reviews dynamic structural econometric models with both continuous and discrete controls, and those with market interactions. Its goal is to highlight techniques which enable researchers to obtain estimates of the parameters of models with these characteristics, and then use the estimates in subsequent descriptive and policy analysis. In an attempt to increase the accessibility of structural modeling, emphasis has been laid on estimation techniques which, though consistent with the underlying structural model, are computationally simple. The extent to which this is possible depends on the characteristics of the applied problem of interest, so the paper ends up covering more than one topic.

Paldam, Martin

PD February 1990. **TI** The Development of the Rich Welfare State of Denmark, An Essay in Interpretation. **AA** University of Aarhus. **SR** Aarhus Institute of Economics Memo: 1990-5; Institute of Economics, University of Aarhus, Building 350, Universitetsparken, DK-8000 Aarhus C, DENMARK. **PG** 35. **PR** no charge. **JE** I38, O15, O52. **KW** Welfare State. Political Economy. Economic Growth.

AB The paper discusses the political economy of economic growth in Denmark 1850-1990. It concentrates on the two periods of the strongest growth and structural change: (i) 1870-1900 and (ii) 1958-1974. Two more themes are discussed: (iii) the strong old tradition for external openness, and (iv) the development of the particular "big compromise" that is the basis for the modern Danish welfare state.

PD November 1990. **TI** The Demand for the Public Sector in the Rich Welfare State of Denmark Two Polls from 1990. **AU** Paldam, Martin; Nannestad, Peter. **AA** University of Aarhus. **SR** Aarhus Institute of Economics Memo: 1990-30; Institute of Economics, University of Aarhus, Building 350, Universitetsparken, DK-8000 Aarhus C, DENMARK. **PG** 26. **PR** no charge. **JE** H11, D73. **KW** Public Sector. Polls. Bureaucracy.

AB The main part of this paper is an analysis of two polls trying to measure how much public sector people demand in Denmark, one of the 3 to 5 most developed welfare states in the world. The Danish public sector level is 10% (of GDP) higher than the one of the average OECD country - or even 20% higher if the countries are weighted according to size. The Appendix contains a minihistory of the Danish public sector with a bit of background for foreign reader, who should probably begin here.

TI Knowledge about the Economy at the Mass Level. **AU** Nannestad, Peter; Paldam, Martin.

Parigi, Bruno M.

PD December 1990. **TI** The Filtering Function of Financial Intermediation. **AA** Virginia Polytechnic Institute and State University. **SR** Virginia Polytechnic Institute and State University Working Paper in Economics: E90-12-01; Department of Economics, Sandy Hall, Virginia Polytechnic Institute and State University, Blacksburg, Virginia 24061. **PG** 41. **PR** free by request. **JE** G21. **KW** Financial Markets. Business Investment.

AB This paper develops a theory of financial intermediation based on the notion that an intermediary may act as a filter of the information being revealed by the entrepreneurs. When the only way for an entrepreneur to signal the quality of his investment project to the capital market involves revealing information that hurts his position with respect to the competitors in the output market, an intermediary may emerge to collect this information and release a filtered amount of it to the ultimate lenders. The paper is centered around the process of information transmission and the financial contracting problems among the agents involved.

Park, Joon Y.

PD March 1990. **TI** Maximum Likelihood Estimation of Simultaneous Cointegrated Models. **AA** University of Aarhus and Cornell University. **SR** Aarhus Institute of Economics Memo: 1990-18; Institute of Economics, University of Aarhus, Building 350, Universitetsparken, DK-8000 Aarhus C, DENMARK. **PG** 39. **PR** no charge. **JE** C13, C32, C14, C22. **KW** Simultaneous Equations. Maximum Likelihood. Cointegration.

AB A comprehensive study on the maximum likelihood method for the statistical inference in a simultaneous cointegrated model is undertaken in this paper. Within a single framework of canonical cointegration regression, we unify the existing parametric and nonparametric approaches to estimate cointegrated models. In particular, we develop the maximum likelihood methods to estimate a cointegrated system in structural form, possibly with overidentifying restrictions, as well as the model in reduced form or with unidentified cointegrating vectors. The paper introduces the system FIML and the single equation LIML estimators, both parametric and nonparametric, and derives their limiting distributions. Also, we propose a new IV procedure, with which we can efficiently estimate a cointegrated model under the assumption of weak exogeneity for the system exogenous variables. The procedure yields 2SLS and 3SLS for the model in structural form, similarly as in the analysis of the standard SEM. Finally, we compare the single equation estimation with the simultaneous estimation of a cointegrated system.

PD May 1990. **TI** Disequilibrium Impulse Analysis. **AA** University of Aarhus and Cornell University. **SR** Aarhus Institute of Economics Memo: 1990-19; Institute of Economics, University of Aarhus, Building 350, Universitetsparken, DK-8000 Aarhus C, DENMARK. **PG** 35. **PR** no charge. **JE** C32. **KW** Impulse Response. VAR Models. Cointegration. Unit Roots.

AB A new framework for the impulse response analysis is developed in the paper for VAR model unit roots and cointegration. The proposed method, which we call the disequilibrium impulse analysis, is rather different from the traditional analysis in both the identification of shocks and the intended interpretation of the results. Our method, in particular, highlights the fact that an impulse generally has a permanent effect on the future path of the system when the unit roots exist. We show, however, that the system always returns to the equilibrium path, due to the presence of cointegration. Also, it is made clear that there are long-run neutral shocks, which do not change the equilibrium of the economy. These are the shocks fully adjusted by the built-in error correction mechanism. The existence of which is warranted by the cointegration in the system. The initial shocks are provided in our analysis either directly through the identification of the structural equations, or by the structural specification of the transitory and permanent shocks. Finally, the new method is applied to some simple practical economic models for the purpose of illustration.

Park, Woosung

PD February 1991. **TI** Optimization and Constraints in the Post-Mao Rural Household Model: Simulation Results Based on a Hebei Township Household Survey. **AU** Park, Woosung; Putterman, Louis. **AA** Park: Kyung-Hee University, Korea. Putterman: Brown University. **SR** Brown University Department of Economics Working Paper: 91-13; Department of Economics, Brown University, Providence, Rhode Island 02912. **PG** 36. **PR** not available. **JE** O53, P32, Q12, Q15, O13. **KW** China. Rural Economics. Agriculture. Economic Reform. Communes.

AB China's replacement of its system of team-based farming with one of household-based farm production, which occurred in the early 1980's following over a quarter century of collectivism, was the centerpiece of a dramatic reform process that laid the basis for broader changes in China's economic system and has influenced perceptions of the Soviet-Chinese development model worldwide. The nature of the new Chinese farming system, however, has often been misrepresented, and remains poorly understood. In journalistic descriptions, and in some scholarly accounts as well, the impression is given that rural China has become a capitalistic, free market economy. This severely understates the degree of state intervention continuing to constrain Chinese farming.

Paull, Gillian

PD February 1991. **TI** Poverty Alleviation and Social Safety Net Schemes for Economies in Transition. **AA** International Monetary Fund. **SR** International Monetary Fund Working Paper: WP/91/14; International Monetary Fund, Washington, DC 20431. **PG** 65. **PR** not available. **JE** I32, I38, P24, O15. **KW** Poland. Poverty. Developing Countries. Income Distribution.

AB Inspired by the current Polish economic restructuring program, this paper attempts to develop a general income support scheme that could serve as a model to alleviate poverty in developed economies in the transitional phase. The proposed scheme has the advantage that no part of the poor population is omitted from eligibility for support sufficient to remove them from poverty. The concept of the simplified model is protection against poverty through income maintenance that is conditional upon fulfillment of forward-looking requirements such as workfare, training or job search. Further, the scheme considers methods whereby limited national resources can be managed by official policies that combine into a coherent, cost-effective package, an optimal mix of income guarantee levels and incentive effects.

Pauls, B. Dianne

TI A Re-assessment of the Relationship between Real Exchange Rates and Real Interest Rates: 1974-1990. **AU** Edison, Hali J.; Pauls, B. Dianne.

Pearce, David G.

TI A Bound on the Proportion of Strategy Equilibria in Generic Games. **AU** Gul, Faruk; Pearce, David G.; Stacchetti, Ennio.

PD June 1991. **TI** Repeated Games: Cooperation and Rationality. **AA** Yale University. **SR** Yale Cowles Foundation Discussion Paper: 983; Yale University, Cowles Foundation, Box 2125, Yale Station, New Haven, CT 06520. **PG** 42. **PR** $2.00. **JE** C71. **KW** Repeated Game. Self-Enforcing Contracts. Supergames. Folk Theorem.

AB The paper is a survey written for the Sixth World congress of the Econometric Society. It is devoted largely to a discussion of the progress made in the last decade in understanding the structure of self-enforcing agreements in discounted supergames of complete information. Perfect and imperfect monitoring models are considered in turn, with attention given to the case of substantial impatience as well as to the various "folk theorems." The emphasis is on the features of constrained-optimal perfect equilibria, causes of inefficiency, and some relationships among different strands of the literature. The remainder of the paper is a critical and comparative consideration of recent work on renegotiation in repeated games.

Peaucelle, I.

TI Series Codependantes Application a l'Hypothese de Parite du Pouvoir d'Achat. **AU** Gourieroux, C.; Peaucelle, I.

Perez, Stephen J.

TI Post Hoc Ergo Propter Hoc Once More: An Evaluation of "Does Monetary Policy Matter?" in the Spirit of James Tobin. **AU** Hoover, Kevin D.; Perez, Stephen J.

Perez-Campanero, Juan

PD March 1991. **TI** Liberalization and Financial Crisis in Uruguay (1974-1987). **AU** Perez-Campanero, Juan; Leone, Alfredo M. **AA** International Monetary Fund. **SR** International Monetary Fund Working Paper: WP/91/30; International Monetary Fund, Washington, DC 20431. **PG** 78. **PR** not available. **JE** G21, O16, O54. **KW** Banking. Bank Failures. Banking Crisis. Financial System.

AB The financial system in Uruguay underwent a serious crisis beginning in 1982 which resulted in the failure of many banks and to a major restructuring of the financial system. This paper examines the causes and consequences of this crisis and explores the relationship between developments in the financial sector and those in the rest of the economy. It also discusses the effect of financial liberalization, and government policies in banking regulation and supervision on the crisis, as well as the measures that the government took to deal with the crisis.

Pesaran, M. Hashem

PD February 1991. **TI** The Iranian Foreign Exchange Policy and the Black Market for Dollars. **AA** University of California, Los Angeles and Trinity College, Cambridge. **SR** University of Cambridge DAE Working Paper: 9105; Department of Applied Economics, University of Cambridge, Sidgwick Avenue, Cambridge CB3 9DE, UNITED KINGDOM. **PG** 40. **PR** $4.00 (2.00 pounds), checks payable to University of Cambridge. **JE** O53, O11, E42. **KW** Iran. Exchange Rate. Government Policy. Monetary System.

AB This paper examines the developments in Iran's foreign exchange position both before and after the revolution, and critically evaluates the country's exchange rate policy in the face of the fundamental changes that have taken place as a result of the oil price shocks, the 1979 revolution, and the eight year war with Iraq. The emphasis of the paper will be on the developments during the post-revolutionary period and covers the ten years from 1979/80 to 1988/89 for which data is readily available from public sources. The paper argues that the present exchange rate system with many different rates built around a highly overvalued fixed official rate is both inefficient and most likely will not be sustainable in the long-run. A rationalization of the exchange rate system should, therefore, lie at the heart of any policy package aimed at the reconstruction and the regeneration of the Iranian economy.

Peters, Wolfgang

TI Voluntary Provision of Public Goods and Non-Neutral Income Taxation. **AU** Nett, Lorenz; Peters, Wolfgang.

PD December 1990. **TI** Public Pensions in Transition - An Optimal Policy Path. **AA** University of Bonn. **SR** Universitat Bonn Sonderforschungsbereich 303 - Discussion Paper: A-284; Sonderforschungsbereich 303 an der Universitat Bonn, Adenauerallee 24-42, D-5300 Bonn 1, GERMANY. **PG** 19. **PR** no charge. **JE** D91, H55, J14, D31. **KW** Public Pensions. Social Security. Intertemporal Model. Elderly.

AB The main purpose of this paper is to analyze problems of financing an old-age insurance when birth rates are low and population declines or fertility fluctuates with time. A government then searches for optimal policies to cope with such problems. A first criterion could be seen in the Pareto principle. But we all know that there is no way out of PAYG unless at least one generation has to pay for the transition. Therefore an optimal policy is concerned with intergenerational redistribution and optimal growth. In the absence of public pensions the economy will in the long-run converge to a steady state which is not optimal in the sense of a golden rule. This dynamic "inefficiency results from the decentralized decision-making by the consumers and the firms. If the PAYG system influences the savings ratio of the economy, public pensions can be seen as an instrument to implement a modified golden rule.

TI When Employees Free Ride - A Theory of Inefficiency. **AU** Bos, Dieter; Peters, Wolfgang.

Phillips, Peter C. B.

PD July 1991. **TI** Bayesian Routes and Unit Roots: De Rebus Prioribus Semper Est Disputandum. **AA** Yale University. **SR** Yale Cowles Foundation Discussion Paper: 986; Yale University, Cowles Foundation, Box 2125, Yale Station, New Haven, CT 06520. **PG** 48. **PR** $2.00. **JE** C11, C22. **KW** Bayesian Analysis. Time Series.

AB This paper provides detailed responses to the following 8 discussants of my paper "To Criticize the Critics: An Objective Bayesian Analysis of Stochastic Trends": Gary Koop and Mark Steel; Edward Leamer; In-Moo Kim and G. S. Maddala; Dale J. Poirier; Peter C. Schotman and Herman K. van Dijk; James H Stock; David Dejong and Charles H. Whiteman; and Christopher Sims. This reply puts new emphasis on the call made in the earlier paper for objective Bayesian analysis in time series; it underlines the need for a new approach, especially with regard to posterior odds testing; and it draws attention to a new methodology of Bayesian analysis developed in a recent paper by Phillips-Ploberger (1991). Some new simulations that shed light on certain comments of the discussants are proven; new empirical evidence is reported with the extended Nelson-Plosser data supplied by Schotman and van Dijk; and the new Phillips-Ploberger posterior odds test is given a brief empirical illustration.

Phylaktis, Kate

TI The Demand for Money during High Inflation Episodes: Some Latin American Evidence on the Cagan Model. **AU** Taylor, Mark P.; Phylaktis, Kate.

Poljak, Svatopluk

PD February 1991. **TI** Bipartite Subgraphs of Triangle-Free Graphs. **AU** Poljak, Svatopluk; Tuza, Zsolt. **AA** Poljak: Charles University, Prague. Tuza: Hungarian Academy of Sciences. **SR** Universitat Bonn Sonderforschungsbereich 303 - Discussion Paper: 91686-OR; Sonderforschungsbereich 303 an der Universitat Bonn, Adenauerallee 24-42, D-5300 Bonn 1, GERMANY. **PG** 8. **PR** no charge. **JE** C63, C60. **KW** Bipartite Subgraph. Polynomial Time Algorithm. Algorithm.

AB We present a lower bound on the maximum size of a bipartite subgraph of a triangle free-graph that improves a result due to Erdos and Lovasz. It also gives a polynomial time algorithm, while the previous bound was proved by probabilistic methods.

PD April 1991. **TI** Polyhedral and Eigenvalue Approximations of the Max-Cut Problem. **AA** University of Bonn. **SR** Universitat Bonn Sonderforschungsbereich 303 - Discussion Paper: 91691-OR; Sonderforschungsbereich 303 an der Universitat Bonn, Adenauerallee 24-42, D-5300 Bonn 1, GERMANY. **PG** 13. **PR** no charge. **JE** C60. **KW** Graph Theory. Max-Cut Problem. Upper Bounds. Subgraphs.

AB We survey lower and upper bounds on the max-cut problem and the maximum bipartite subgraph problem, and discuss some connections between them. As a new result we prove that distinct relaxations of the cut polytope lead to the same polyhedral upper bound on the maximum cut of a nonnegatively weighted graph. We observe that the ratio sigma(G)/mc(G) between the polyhedral upper bound sigma(G) and the actual size mc(G) of the max-cut can be arbitrarily close to 2. This shows that the polyhedral upper bound can be, in a certain sense, as bad as possible.

Pope, Clayne L.

TI Precedence and Wealth: Evidence from Nineteen Century Utah. **AU** Galenson, David W.; Pope, Clayne L.

Postlewaite, Andrew

TI Social Norms, Savings Behavior, and Growth. **AU** Cole, Harold L.; Mailath, George J.; Postlewaite, Andrew.

Promel, Hans Jurgen

PD April 1991. **TI** Coloring Clique-Free Graphs in Linear Expected Time. **AU** Promel, Hans Jurgen; Steger, Angelika. **AA** University of Bonn. **SR** Universitat Bonn Sonderforschungsbereich 303 - Discussion Paper: 91689-OR; Sonderforschungsbereich 303 an der Universitat Bonn, Adenauerallee 24-42, D-5300 Bonn 1, GERMANY. **PG** 37. **PR** no charge. **JE** C63, C60. **KW** Graph Theory. Coloring Problem. Time Algorithm.

AB This paper presents a linear expected time algorithm to color every graph which does not contain a clique on l+1 vertices as a subgraph with a minimal number of colors. This extends a result of Dyer and Frieze for l-colorable graphs. For the proof we develop a new method which allows us to precisely estimate the number of graphs with certain structural properties.

Pschke, Jorn-Steffen

PD August 1991. **TI** Individual Income, Incomplete Information, and Aggregate Consumption. **AA** Princeton University. **SR** Princeton Industrial Relations Section Working Paper: 289; Department of Economics, Princeton University, Princeton, NJ 08544-2098. **PG** 49. **PR** $1.50. **JE** E21, D91, D12, D11. **KW** Consumption. Consumer Economics. Life Cycle Model. Income Stream. Earnings.

AB Individual income is much more variable than aggregate per capita income. I argue that aggregate information is therefore not very important for individual consumption decisions and construct a model of life cycle consumption in which individuals react optimally to their own income process but ignore economy-wide information. Since individual income is less persistent than aggregate income consumers will react too little to aggregate income variation. Aggregate consumption will be excessively smooth. Since aggregate information is slowly incorporated into consumption, aggregate consumption will be autocorrelated and correlated with lagged income. On the other hand, the model has the same prediction for micro data as the standard permanent income model. I argue that this is roughly in accord with the findings in the literature.

Pudney, Stephen

PD February 1991. **TI** Income, Wealth, and the Life Cycle: A Non-Parametric Analysis for China. **AA** University of Cambridge. **SR** University of Cambridge DAE Working Paper: 9106; Department of Applied Economics, University of Cambridge, Sidgwick Avenue, Cambridge CB3 9DE, UNITED KINGDOM. **PG** 29. **PR** $4.00 (2.00 pounds), checks payable to University of Cambridge. **JE** D31, D91, O53. **KW** China. Wealth. Income Distribution.

AB This paper uses the techniques of nonparametric density and regression estimation to estimate the Chinese age/income and age/wealth distributions, using survey data relating to 1987. Although there is evidence of a clear life cycle profile of income earning and wealth accumulation, the results suggest that only a small part of observed inequality can be explained by life cycle factors. This finding contradicts the results of some other researchers.

Putterman, Louis

TI Productivity Consequences of Alternative Land Division Methods in China's Decollectivization: An Econometric Analysis. **AU** Gaynor, Martin; Putterman, Louis.

TI Optimization and Constraints in the Post-Mao Rural Household Model: Simulation Results Based on a Hebei Township Household Survey. **AU** Park, Woosung; Putterman, Louis.

PD March 1991. **TI** Collectivization and China's Agricultural Crisis in 1959-1961: Comment. **AA** Brown University. **SR** Brown University Department of Economics Working Paper: 91-11; Department of Economics, Brown University, Providence, Rhode Island 02912. **PG** 13. **PR** not available. **JE** Q15, P32, Q12. **KW** Collectivization. Agriculture. China.

AB Justin Yifu Lin's recent paper turns our attention to an important historical paradox. It has been noted that agricultural output rose in China both during the collectivization process in the 1950's and during the decollectivization process of 1979-83. The more refined formulation of the paradox presented by Lin is that total factor productivity in Chinese agriculture showed a modestly rising trend between 1952 and 1958 (which brackets the collectivization), dropped sharply in 1959 and 1960, and remained below the 1950's level until 1979, after which it steeply rose until the mid-1980's (bracketing the decollectivization). The TFP data introduced by Lin (after Wen, 1989) present a challenge to analysts because if the 1959/60 drop in productivity was due to collectivization as such, then the decline should have begun in 1956 or earlier, while if it was due to the excessive scale of the collective units (people's communes) formed in late 1958, it should have been fully reversed by the adoption of the system of production by small teams in 1962.

PD July 1991. **TI** The Public as Principal: Agency under Common Ownership Market Socialism. **AA** Brown University. **SR** Brown University Department of Economics Working Paper: 91-21; Department of Economics, Brown University, Providence, Rhode Island 02912. **PG** 28. **PR** not available. **JE** P34, P43, P21. **KW** Market Socialism. Public Ownership. Agency Theory.

AB This paper discusses agency problems relevant to the allocation of finance in a hypothetical market socialist economy with public ownership of capital. I focus on the agency relationship between the public, as collective principal, and the state or public financial manager, as agent. The principal can motivate or discipline the agent by basing compensation and job tenure on monitored actions or monitored results, or by giving the agent some or all residual claims. A disincentive to monitoring investment decisions is shown to flow from the fact that all citizens hold a common portfolio. Monitoring results is made difficult by the absence of competing teams of agents with independent and contemporaneous performance records. Complete residual assignment is argued to be infeasible, and partial residual sharing not a perfect substitute for monitoring. A comparison of discipline by voice versus exit is also offered.

TI Productivity Consequences of Alternative Land Division

Methods in China's Decollectivization: An Econometric Analysis. **AU** Gaynor, Martin; Putterman, Louis.

Qin, Cheng-Zhong

PD February 1991. **TI** The Inner Core and the Strongly Inhibitive Set. **AA** University of California, Santa Barbara. **SR** University of California at Santa Barbara Department of Economics Working Paper: 5-91; Working Papers Coordinator, Department of Economics, University of California at Santa Barbara, Santa Barbara, CA 93106. **PG** 17. **PR** no charge. **JE** C71, C78, D51. **KW** Inner Core. Inhibitive Set. Market Games. Competitive Equilibrium.

AB The inner core, motivated by the study of competitive outcomes in the cores of market games, is shown to be contained in the strongly inhibitive set, and coincides with the strongly inhibitive set for a large class of games.

PD May 1991. **TI** Capital Market Equilibrium in the Entrepreneur-Centered Economy. **AU** Qin, Cheng-Zhong; Wu, S. Y. **AA** Qin: University of California, Santa Barbara. Wu: University of Iowa. **SR** University of California at Santa Barbara Department of Economics Working Paper: 6-91; Working Papers Coordinator, Department of Economics, University of California at Santa Barbara, Santa Barbara, CA 93106. **PG** 47. **PR** no charge. **JE** D52, D43, G32, L13. **KW** Monopolistic Competition. Capital Market. Market Equilibrium. Financing Policy. Entrepreneurs. Capital Structure.

AB This paper examines the equilibrium properties of a capital market which is incomplete and monopolistically competitive. It does so in the context of an economy where entrepreneurs finance production by selling their firms' stocks and bonds. Given the firm's return patterns, demand for each firm's stocks and bonds depend not only on its own production and financing policies but also on other firms' policies. The firms' optimal policies and a market equilibrium emerge as a result of a noncooperative game played by the entrepreneurs. In particular, their capital structures are determined endogenously. We compare this equilibrium with those derived from the traditional Arrow-Debreu-Radner models.

Quah, Danny

PD May 1991. **TI** The Importance of Permanent and Transitory Components: Identification and Some Theoretical Bounds. **AA** Massachusetts Institute of Technology and National Bureau of Economic Research. **SR** Massachusetts Institute of Technology Department of Economics Working Paper: 498R; Department of Economics, Massachusetts Institute of Technology, Cambridge, MA 02139. **PG** 20. **PR** not available. **JE** E23, E32, E27. **KW** GNP. Random Walk.

AB Much macroeconometric discussion has recently emphasized the economic significance of the size of the permanent component in GNP. Consequently, a large literature has developed that tries to estimate this magnitude - measured, essentially, as the spectral density of increments in GNP at frequency zero. This paper shows that unless the permanent component is a random walk this attention has been misplaced: in general, that quantity does not identify the magnitude of the permanent component. Further, by developing bounds on reasonable measures of this magnitude, the paper shows that a random walk specification is biased towards establishing the permanent component as important.

Quandt, Richard E.

TI Effects of Bailouts, Taxes, and Risk-Aversion on the Enterprise. **AU** Goldfeld, Stephen M.; Quandt, Richard E.

PD April 1991. **TI** The Revolutions of 1989. **AA** Princeton University. **SR** Princeton Financial Research Center Memorandum: 123; Financial Research Center, Department of Economics, Princeton University, Princeton, NJ 08544. **PG** 49. **PR** $3.00 U.S.; $6.00 foreign. **JE** O52, P27, O11, L33. **KW** Economic Reform. Privatization. Socialism. Europe.

AB The paper summarizes the major chronological features of the East European Revolutions of 1989 and addresses the question of their proximate as well as their longer-term causes. It is argued that while various short-term causes affected the various countries differently, and coincidentally simultaneously, the longer-term causes are to be found in the inherent logic of socialist planning which caused a significant deterioration in the East European economies. Attention is paid to the development of market-oriented thinking among East European economists. The major issues of macroeconomic balance and microeconomic reform are addressed and the problems of privatization and marketization, as well as of the creation of an appropriate economic infrastructure are discussed.

PD May 1991. **TI** Recent Economic Developments in Eastern Europe. **AA** Princeton University. **SR** Princeton Financial Research Center Memorandum: 125; Financial Research Center, Department of Economics, Princeton University, Princeton, NJ 08544. **PG** 27. **PR** $3.00 U.S.; $6.00 foreign. **JE** O52, O11, L33. **KW** Privatization. Europe. Economic Development. Market Economy.

AB The present paper briefly examines the principal economic issues of the East European transformation and considers the questions of "sequencing" and of the desired speed of the transformation. The comparative macroeconomic experiences of Czechoslovakia, Hungary, Poland, and Romania are discussed and the progress of these countries with respect to the privatization of state enterprises is assessed.

Quintyn, Marc

PD March 1991. **TI** From Direct to Indirect Monetary Policy Instruments: The French Experience Reconsidered. **AA** International Monetary Fund. **SR** International Monetary Fund Working Paper: WP/91/33; International Monetary Fund, Washington, DC 20431. **PG** 30. **PR** not available. **JE** E42, E52, E43. **KW** Monetary Policy. Interest Rate.

AB If not carefully planned, the transition to indirect monetary policy instruments may result in a loss of control. The 1967-71 attempt in France failed because of a misconceived instrument-mix and sequencing. Credit controls, reintroduced in 1972, were only formally abolished in 1987. This paper attributes the successful 1987 reform to changes in the policy framework in the 1980's. The interest rate was already the key instrument because direct controls became less effective and because of the priority given to the exchange rate objective. Consequently, the 1987 transition was from pegging to guiding the interest rates. Empirical evidence underpins this interpretation.

Rabin, Matthew

PD April 1991. **TI** Reneging and Renegotiation.

AA University of California, Berkeley. **SR** University of California at Berkeley Working Paper in Economics: 91-163; IBER 156 Barrows Hall, University of California at Berkeley, Berkeley, CA 94720. **PG** 29. **PR** $3.50 plus applicable sales tax. **JE** C71, C78. **KW** Repeated Games. Bargaining. Cooperative Games.

AB I present a model of renegotiation in infinitely repeated games that incorporates the assumption that if a player cheats early in a game, then other players are likely to distrust his promises not to cheat in the future. I show how this can allow much more cooperation in some games than allowable in the approach taken by Bernheim and Ray [1989] and Farrell and Maskin [1989]. In other games, my solution concept rules out all Pareto-efficient subgame-perfect equilibria, even as the discount factor approaches 1. This contrasts (generically) with existing models of renegotiation.

PD April 1991. **TI** A Model of Pre-Game Communication. **AA** University of California, Berkeley. **SR** University of California at Berkeley Working Paper in Economics: 91-164; IBER 156 Barrows Hall, University of California at Berkeley, Berkeley, CA 94720. **PG** 53. **PR** $3.50 plus applicable sales tax. **JE** D83, C78, C71. **KW** Communication. Cheap Talk. Nash Equilibrium.

AB I present a model of players making repeated, simultaneous, cheap talk statements prior to the play of a two player, complete information game. Building from one basic set of assumptions about how players reach voluntary agreements, I define related non-equilibrium and equilibrium solution concepts, as well as solution concepts with "some equilibrium." I use the model to examine each of two common hypotheses for complete information games: First, that communication guarantees players will coordinate on Nash equilibrium outcomes, and second, that within the equilibrium framework, communication guarantees players will coordinate on Pareto efficient equilibria. I reject the strong versions of each of these hypotheses, but provide a variety of alternative results. With regard to the communication yields efficiency hypothesis, a simple result obtains if players can communicate for a long time: In every equilibrium of every game, each player gets a payoff at least as great as that of his worst Pareto efficient Nash equilibrium.

PD July 1991. **TI** Information and the Control of Productive Assets. **AA** University of California at Berkeley. **SR** University of California at Berkeley Working Paper in Economics: 91-169; IBER 156 Barrows Hall, University of California at Berkeley, Berkeley, CA 94720. **PG** 32. **PR** $3.50 plus applicable sales tax. **JE** D23, D82, C78. **KW** Adverse Selection. Moral Hazard. Bargaining.

AB I present models in which an informed party may inefficiently gain control over a productive asset as a response to difficulties in selling her information. This can occur when 1) the informed party has substantial bargaining power, and 2) other parties cannot distinguish informed parties from uninformed ones. I developed variants of the basic model to explore in various circumstances whether and how two firms might integrate. I discuss how the government may increase efficiency of a market if it bans certain types of contracts.

Rankin, Neil

PD July, 1991. **TI** Exchange Rate Risk and Imperfect Capital Mobility in an Optimizing Macromodel. **AA** Department of Economics, Warwick University. **SR** CEPR Discussion Paper: 567; Centre for Economic Policy Research, 6 Duke of York Street, London SW1Y 6LA, United Kingdom. **PG** 26. **PR** Pounds 3.00 or $5.00. **JE** 431. **KW** Imperfect Capital Mobility. Exchange Rate Risk. Macroeconomics.

AB A stochastic two-period model of a small open economy with optimizing consumption and portfolio choice is constructed. Exchange rate risk means domestic-currency bonds are imperfect substitutes for foreign-currency bonds. Expectations are rational, i.e. subjective probability distributions equal the true distributions resulting from the exogenous sources of uncertainty, which in this model are the foreign inflation rate and either the future money supply or government spending. With the former, no real risk premium exists, but increased monetary variance reduces current output, which nominal wage rigidity makes responsive to aggregate demand. With the latter source of uncertainty a premium exists, but neither the risk premium nor output is affected by an increased variance of government spending.

Rasmussen, Bo Sandemann

PD January 1991. **TI** Exchange Rate Policy, Wage Indexation and Credibility. **AA** University of Aarhus. **SR** Aarhus Institute of Economics Memo: 1991-5; Institute of Economics, University of Aarhus, Building 350, Universitetsparken, DK-8000 Aarhus C, DENMARK. **PG** 17. **PR** no charge. **JE** F41, F31, E42. **KW** Exchange Rate. Open Economy. Monetary Policy.

AB Two strands in the literature - the exchange rate policy cum wage indexation literature and the rules versus discretion literature - are combined in a discussion about the optimal exchange rate regime for a small open economy. No exchange regime is generally superior, but if we allow for a privately optimal wage indexation scheme a managed float becomes unambiguously superior to a fixed exchange rate regime if the private agents value price stability as high as the government does. It is stressed that an indexation scheme run by the authorities has no desirable effects as it lacks credibility.

Rau, Barbara

TI Negotiated Settlements and Learning from the Arbitration Experience. **AU** Olson, Craig A.; Rau, Barbara.

Ravn, Morten O.

TI Contemporary Macroeconomic Fluctuations: An International Perspective. **AU** Blackburn, Keith; Ravn, Morten O.

Razin, Assaf

TI International VAT Harmonization: Economic Effects. **AU** Frenkel, Jacob A.; Razin, Assaf; Symansky, Steven.

PD June 1991. **TI** International Fiscal Policy Coordination and Competition. **AU** Razin, Assaf; Sadka, Efraim. **AA** Razin: Tel Aviv University and National Bureau of Economic Research. Sadka: Tel Aviv University. **SR** Tel Aviv Sackler Institute of Economic Studies Working Paper: 3-91; Department of Economics, Tel Aviv University, Ramat Aviv 69978, Tel Aviv, ISRAEL. **PG** 26. **PR** no charge. **JE** F21, F42, F41, H21. **KW** Capital Mobility. Taxes. International Policy. Policy Coordination.

AB The paper highlights key considerations necessary for the analysis of international tax competition and the desirability 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.

Rees, Albert

PD June 1991. **TI** The Salaries of Ph.D.'s in Academe and Elsewhere. **AA** Princeton University. **SR** Princeton Industrial Relations Section Working Paper: 286; Department of Economics, Princeton University, Princeton, NJ 08544-2098. **PG** 21. **PR** $1.50. **JE** J31. **KW** Occupations. Human Capital. Wages. Compensating Differentials. Universities.

AB Median salaries of Ph.D.'s are substantially higher for those in nonacademic employment than for those employed by colleges and universities, even after salaries paid on an academic year basis are adjusted upward to a full-year basis. The differences can be seen both in cross-section estimates for 1987 and in fixed effect estimates based on data for Ph.D.'s who changed sectors between 1985 and 1987. The most likely explanation of these differences is that they are compensating differentials reflecting the advantages of academic employment, including greater autonomy and (for those with tenure) greater job security.

Reinhart, Carmen M.

PD March 1991. **TI** Output Fluctuations and Monetary Shocks: Evidence from Colombia. **AU** Reinhart, Carmen M.; Reinhart, Vincent R. **AA** Reinhart, C.: International Monetary Fund. Reinhart, V.: Board of Governors of the Federal Reserve System. **SR** International Monetary Fund Working Paper: WP/91/35; International Monetary Fund, Washington, DC 20431. **PG** 29. **PR** not available. **JE** E32, E13, E31, E37. **KW** Economic Fluctuations. Inflation. Output. Macroeconomic Model.

AB Using annual data for Colombia over the last thirty years and a new battery of econometric techniques, we test opposing theories that explain macroeconomic fluctuations: The neoclassical synthesis, which posits that, in the presence of temporary price rigidity, an unanticipated monetary expansion produces output gains that erode over time with increases in the price level; and an alternative explanation, which focuses on "real" technological or preference shocks as the sources of output changes. The coefficients from these systems are used to examine two basic propositions: the long-run neutrality of nominal quantities with respect to permanent movements in the money stock; and the short-run sensitivity of output to inflation.

TI The Demand for Money in Developing Countries: Assessing the Role of Financial Innovation. **AU** Arrau, Patricio; De Gregorio, Jose; Reinhart, Carmen M.; Wickham, Peter.

Reinhart, Vincent R.

TI Output Fluctuations and Monetary Shocks: Evidence from Colombia. **AU** Reinhart, Carmen M.; Reinhart, Vincent R.

Reisman, Haim

TI Expected Returns and Accounting Betas. **AU** John, Kose; John, Teresa A.; Reisman, Haim.

Renault, E.

TI A General Framework for Factor Models. **AU** Gourieroux, C.; Monfort, A.; Renault, E.

Richardson, J. David

PD June 1991. **TI** U.S. Trade Policy in the 1980's: Turns -- and Roads Not Taken. **AA** Syracuse University and National Bureau of Economic Research. **SR** National Bureau of Economic Research Working Paper: 3725; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PG** 52. **PR** $2.00. **JE** F13, E61. **KW** Trade Policy. Commercial Policy.

AB This paper is an assessment of three tilts in U.S. trade policy during the 1980's: minilateralism, managed trade, and Congressional activism. It describes their economic and political causes, and whether or not alternative policy directions might have been possible. Taking as given the unfavorable macroeconomic environment for trade policy, a few alternatives do seem possible, but only a few. Sectoral minilateralism might have been a feasible replacement for the more aggressive managed trade experiments, e.g., in semiconductors, and earlier Executive Branch initiative in drafting trade legislation of the late 1980's might have blunted some of the sharper edges of the Congressional arsenal in the 1988 act.

Richardson, Ray

TI The Impact of Employee Share Ownership on Worker Attitudes, A Longitudinal Case Study. **AU** Dunn, Stephen; Richardson, Ray; Dewe, Philip.

PD March 1991. **TI** The Costs of Employee Share Ownership Schemes. **AU** Richardson, Ray; Barnes, Jeffrey. **AA** London School of Economics. **SR** London School of Economics Centre for Economic Performance Discussion Paper: 25; Centre for Economic Performance, London School of Economics and Political Science, Houghton Street, London WC2A 2AE, ENGLAND. **PG** 21. **PR** no charge. **JE** J54, G32. **KW** Financing Policy. Employee Ownership. Ownership.

AB The paper investigates the costs of the three most popular types of employee share ownership schemes in the U.K. It offers a method of establishing these costs and provides some rough calculations of their actual size for a set of large firms in the U.K. It ends with some observations on how managers perceive the costs of employee share ownership. Overall for the sample of 55 firms, the cost of employee share ownership was equivalent to a shareholder loss, or "dilution," of equity at a rate of O.25% per annum. In absolute terms, the sample of companies spent somewhat more than 250 million pounds on their employee share ownership schemes in 1988; this amounted to 2.19 per cent of recorded profits, and 1.30 per cent of the wage bill. Where companies had all three schemes in a mature form, their costs accounted for 2.58 per cent of the profits, and 1.48 per cent of the wage bill.

Risager, Ole

TI The Role of Credibility for the Effects of a Change in the Exchange Rate Policy. **AU** Andersen, Torben M.; Risager, Ole.

PD September 1990. **TI** Wage Rivalry and Insider-Outsider Relations: Evidence for Skilled and Unskilled Men in Denmark. **AA** University of Aarhus. **SR** Aarhus Institute of Economics Memo: 1990-21; Institute of Economics, University of Aarhus, Building 350, Universitetsparken, DK-8000 Aarhus C, DENMARK. **PG** 37. **PR** no charge. **JE** J31, J51, J41. **KW** Collective Bargaining. Unions. Wages. Wage Determination.
AB We use a model with trade union rivalry to derive wage reaction functions, which we estimate for skilled and unskilled men in Denmark. The results show substantial differences between the wage determination for the two groups of workers in the short-term, but once the wage-wage spiral starts to operate some of the differences disappear. However the wage setting for unskilled men is subject to insider-outsider effects, whereas it is uncertain whether the wage determination for skilled workers suffers from such imperfections.

PD January 1991. **TI** Labor Substitution in Denmark. **AA** University of Aarhus. **SR** Aarhus Institute of Economics Memo: 1991-8; Institute of Economics, University of Aarhus, Building 350, Universitetsparken, DK-8000 Aarhus C, DENMARK. **PG** 22. **PR** no charge. **JE** J23, D24. **KW** Labor Demand. Skilled Labor. Production Function.
AB This paper analyzes Danish firms' demand for skilled and unskilled labor. The main focus is on the degree of long-run substitutability, and the paper therefore applies the cointegration method. The following three main results are obtained. First, there is a high degree of substitutability between the two types of labor. Secondly, capital is separable to the two labor inputs. Thirdly, an increase in the price of imported raw materials leads to a decline in the demand for unskilled labor relative to the demand for skilled labor.

Rockoff, Hugh

PD January 1990. **TI** The Capital Market in the 1850's. **AA** Rutgers University. **SR** National Bureau of Economic Research Working Paper Series on Historical Factors and Long-Run Growth: 11; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PG** 45. **PR** $2.00. **JE** N21, G21. **KW** Capital Markets. Banking.
AB This paper brings together data from a variety of sources to create a portrait of net rates of return to capital in banking in the 1850's. The primary purpose is to provide estimates comparable to those developed by Lance Davis and many subsequent researchers for the post-bellum period. The conclusion that emerges is that the capital market in the developed regions of the U.S. was fairly well integrated in the 1850's, and that part of the wide divergence in rates observed in the 1870's was due to the disruptions caused by the Civil War.

Rodriguez, Armando E.

PD March 1991. **TI** Some Antitrust Concerns of Partial Equity Acquisitions. **AA** Federal Trade Commission. **SR** Federal Trade Commission Bureau of Economics Working Paper: 186; Bureau of Economics, Federal Trade Commission, 6th and Pennsylvania Ave. NW, Washington, D.C. 20580. **PG** 19. **PR** no charge. **JE** G34, G31, L41. **KW** Antitrust. Acquisitions. Profits. Corporations. Collusion.
AB If a firm acquires stock in a competitor, further price competition may impose a penalty in the form of devalued holdings. The purchase, by penalizing price cuts, may help to support tacit collusion between firms. This paper establishes how the partial acquisition of outstanding common shares enables firms to accomplish this objective without formal coordination. However, this price-cutting disincentive is shown to be insignificant when the competitive overlap between firms occurs in markets that generate some fraction of total corporate profits.

Rodrik, Dani

TI Distributive Politics and Economic Growth. **AU** Alesina, Alberto; Rodrik, Dani.

TI Do the Benefits of Exchange Rates Outweigh Their Cost? The Franc Zone in Africa. **AU** Devarajan, Shantayanan; Rodrik, Dani.

Rodseth, Asbjorn

PD June 1991. **TI** Are Employment Policies Counterproductive when Wage Setting is Centralized? **AA** University of Oslo and London School of Economics. **SR** London School of Economics Centre for Economic Performance Discussion Paper: 28; Centre for Economic Performance, London School of Economics and Political Science, Houghton Street, London WC2A 2AE, UNITED KINGDOM. **PG** 25. **PR** no charge. **JE** E62, E64, J51, E24. **KW** Wages. Employment Policies. Collective Bargaining. Government Policy.
AB When government policy is subjected to a balanced budget constraint or a current account constraint, total income of the workers is independent of the employment policy. An employment policy distributes income more evenly, and may lead a union with strong preferences for equality to raise its wage. However, a sufficiently vigorous employment policy is always effective. Unions which maximize the after tax real wage always lower the nominal wage when government employment policy becomes more vigorous. The constraints enforce an implicit tax-based incomes policy (TIP), and there is limited scope due to centralization for other forms of TIP.

Roell, Ailsa

TI Dually-Traded Italian Equities: London vs. Milan. **AU** Pagano, Marco; Roell, Ailsa.

Roemer, John E.

PD June 1991. **TI** A Theory of Class-Differentiated Politics in an Electoral Democracy. **AA** University of California at Davis. **SR** University of California at Davis Economics Department Working Paper: 384; Department of Economics, University of California at Davis, Davis, CA 95616-8578. **PG** 35. **PR** not available. **JE** D72, D71, D81. **KW** Median Voter. Politics. Uncertainty. Political Economy. Voting.
AB Voter preferences are characterized by a parameter alpha (say, income) distributed on an interval A according to a measure F. There is a single issue (say, a tax rate) whose level, b, is to be politically decided. There are two parties, each of which is a perfect agent of some constituency of voters -- say, voters with a given alpha. An equilibrium of the electoral game is a pair of policies, b(1) and b(2), proposed by the two parties, such that b(i) maximizes the expected utility of the voters whom party i represents, given the policy proposed by the

opposition under reasonable assumptions, the unique electoral equilibrium consists in both parties proposing the favorite "tax rate" of the median voter. What theory can explain why, historically, we observe electoral equilibria where the "right" and "left" parties offer different policies? Uncertainty concerning the distribution of voters is introduced: all persons and parties share a prior that the true distribution of voter traits is F(t), where t is a random variable of known distribution. It is shown that electoral equilibria now involve differentiated policies, and, indeed, as uncertainty "gets large," the equilibrium policy proposed by each party converges to the favorite policy of the voters whom the party represents.

TI Market Socialism: A Case for Rejuvenation. **AU** Bardhan, Pranab; Roemer, John E.

Rojas-Suarez, Liliana

TI Interest Rates in Mexico: The Role of Exchange Rate Expectations and International Creditworthiness. **AU** Khor, Hoe E.; Rojas-Suarez, Liliana.

Rose, Andrew K.

TI An Empirical Exploration of Exchange Rate Target-Zones. **AU** Flood, Robert P.; Rose, Andrew K.; Mathieson, Donald J.

Roubini, Nouriel

TI Financial Intermediation and Monetary Policies in the World Economy. **AU** Grilli, Vittorio; Roubini, Nouriel.

Rustichini, Aldo

TI Social Conflict, Growth and Income Distribution. **AU** Benhabib, Jess; Rustichini, Aldo.

Sadka, Efraim

TI International Fiscal Policy Coordination and Competition. **AU** Razin, Assaf; Sadka, Efraim.

Sahay, Ratna

PD June 1991. **TI** Input Shortages in Mixed Economies: An Application to Indian Manufacturing Industries. **AA** International Monetary Fund. **SR** International Monetary Fund Working Paper: WP/91/56; International Monetary Fund, Washington, DC 20431. **PG** 26. **PR** not available. **JE** D24, L60, O53, O11. **KW** Developing Countries. Excess Capacity. India. Manufacturing.

AB Widespread shortages in key inputs are common in mixed economies of developing countries. These shortages appear to occur at the same time that relatively high rates of capacity underutilization in manufacturing industries are observed. This paper develops a simple model which explains the existence of excess capacity when there are quantitative restrictions on key inputs. This model is tested using data for manufacturing industries in India, and the results indicate that shortages in domestic rather than imported inputs imposed binding constraints on capacity utilization rates.

Saint-Paul, Gilles

TI On the Virtue of Bad Times: An Analysis of the Interaction between Economic Fluctuations and Productivity Growth. **AU** Aghion, Philippe; Saint-Paul, Gilles.

Salyer, Kevin D.

TI Monetary Policy, Risk Premia and Interest Rates. **AU** Dellas, Harris; Salyer, Kevin D.

TI Modeling Liquidity: Implications for the Term Structure of Nominal Interest Rates. **AU** Glenn, Andrew J.; Salyer, Kevin D.

Sandmann, Klaus

PD March 1991. **TI** A Term Structure Model and the Pricing of Interest Rate Derivatives. **AU** Sandmann, Klaus; Sondermann, Dieter. **AA** University of Bonn. **SR** Universitat Bonn Sonderforschungsbereich 303 - Discussion Paper: B-180; Sonderforschungsbereich 303 an der Universitat Bonn Adenauerallee 24-42, D5300 Bonn 1, GERMANY. **PG** 32. **PR** no charge. **JE** E43, G12, G11. **KW** Arbitrage. Hedging. Interest Rate. Option Pricing. Term Structure.

AB The paper develops a general arbitrage free model for the term structure of interest rates. The principal model is formulated in a discrete time structure. It differs substantially from the Ho-Lee-Model (1986) and does not generate negative spot and forward rates. The results for the continuous time limit support this. The probability distribution with finite support is derived for the spot rate return. The model permits the arbitrage free valuation of bond options and interest rate options and produces dynamic portfolio strategies to duplicate these contracts.

Saunders, Anthony

TI Deposit Insurance: What are the Issues and What Needs to be Fixed? **AU** Berlin, Mitchell; Saunders, Anthony; Udell, Gregory F.

TI Managers, Owners, and the Pricing of Risky Debt: An Empirical Analysis. **AU** Milonas, Nikolaos T.; Saunders, Anthony; Strock, Elizabeth; Travlos, Nickolaos G.

PD April 1991. **TI** The Separation of Banking and Commerce. **AA** New York University. **SR** New York University Salomon Brothers Center Working Paper: S-91-19; 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** 58. **PR** $5.00. **JE** G21, G28. **KW** Banking. Regulation. Government Policy.

AB This paper considers the pertinent economic and regulatory issues that arise when banking and commerce are mixed. It is timely in view of the current debate over restructuring the financial regulatory system, in light of the current thrift crisis, the general decline in the international competitiveness of the U.S. financial services industry as well as renewed academic interest in agency costs and the role of debt and equity in controlling such conflicts. While most observers agree on the current abject state of the U.S. banking and thrift industries, there are wide disagreements over what should be done. One of the major areas of debate (disagreement) is over whether the current separation (and restrictions) between commerce and banking should be relaxed in any future restructured financial system.

Savastano, Miguel A.

PD April 1991. **TI** Collapse of a Crawling Peg Regime in the Presence of a Government Budget Constraint.

AA International Monetary Fund. **SR** International Monetary Fund Working Paper: WP/91/42; International Monetary Fund, Washington, DC 20431. **PG** 18. **PR** not available. **JE** F31, F32, E42. **KW** Balance of Payments. Current Account. Exchange Rate.

AB This study extends the research on balance-of-payments crises by investigating the dynamics of the collapse of a crawling exchange rate in the presence of an explicit link between the fiscal deficit and domestic credit. It shows that such an exchange rate regime is characterized by two potential steady-state equilibria. This introduces an ex-ante indeterminacy regarding the timing and magnitude of the speculative attack on international reserves in the event of a sustained inconsistency between the country's fiscal and exchange rate policies. The paper discusses the conditions that would define the actual timing of the regime's breakdown.

Savouri, Savvas

TI Regional Migration in Britain: An Analysis of Gross Flows Using NHS Central Register Data. **AU** Jackman, Richard; Savouri, Savvas.

Schiantarelli, Fabio

TI Corporation Tax Asymmetries and Investment: Evidence from U.K. Panel Data. **AU** Devereux, Michael P.; Keen, Michael; Schiantarelli, Fabio.

TI Corporation Tax Asymmetries and Investment: Evidence from U.K. Panel Data. **AU** Devereux, Michael P.; Keen, Michael; Schiantarelli, Fabio.

Schmidt, Klaus M.

PD February 1991. **TI** The Costs and Benefits of Privatization. **AA** University of Bonn. **SR** Universitat Bonn Sonderforschungsbereich 303 - Discussion Paper: A-330; Sonderforschungsbereich 303 an der Universitat Bonn, Adenauerallee 24-42, D-5300 Bonn 1, GERMANY. **PG** 35. **PR** no charge. **JE** L33, P21, H42, P23. **KW** Privatization. Renegotiation. Socialism. Public Enterprises.

AB This paper investigates some differences in allocative and productive efficiency between a privatized and a nationalized firm from an incomplete contracts perspective. Suppose the government wants to commit to a subsidy scheme which gives some cost-saving incentives to the management but is inefficient ex post. Under nationalization this scheme is not credible. However, under privatization the government is less informed about the costs of the firm. Therefore an inefficient subsidy scheme becomes optimal to limit the information rent of the private owner. Although production is distorted ex post this may be desirable to give better ex ante incentives to the management.

PD March 1991. **TI** Reputation and Equilibrium Characterization in Repeated Games of Conflicting Interests. **AA** University of Bonn. **SR** Universitat Bonn Sonderforschungsbereich 303 - Discussion Paper: A-333; Sonderforschungsbereich 303 an der Universitat Bonn, Adenauerallee 24-42, D-5300 Bonn 1, GERMANY. **PG** 33. **PR** no charge. **JE** C71. **KW** Folk Theorem. Repeated Games. Reputation. Cooperative Games.

AB A two-person game has conflicting interests if the strategy to which player one would most like to commit himself holds player two down to her minimax payoff. Suppose there is a positive prior probability that player one is a "commitment type" who will always play this strategy. Then player one will get at least his commitment payoff in any Nash equilibrium of the repeated game if his discount factor approaches one. This result is robust against further perturbations of the informational structure and in striking contrast to the message of the Folk theorem for games of incomplete information.

Schmidt, Roland

PD May 1991. **TI** Is Inflation Risk Associated with the Rate of Inflation - New Evidence for Cointegrated Time Series. **AA** University of Bonn. **SR** Universitat Bonn Sonderforschungsbereich 303 - Discussion Paper: B-184; Sonderforschungsbereich 303 an der Universitat Bonn Adenauerallee 24-42, D5300 Bonn 1, GERMANY. **PG** 30. **PR** no charge. **JE** E31, E43. **KW** Inflation. Interest Rates. ARCH.

AB We investigate the role of the inflation level for inflation risk. The inflation process we describe by an error correction model because the price level is cointegrated with the money stock, industrial production and the interest rate. The resulting inflation risk has a moving average representation which fits the data more appropriately than the ARCH model. Inflation risk is found to be positively related to the inflation.

Schwarzler, Werner

PD December 1990. **TI** Being Hamiltonian is Not a Tutte Invariant. **AA** University of Bonn. **SR** Universitat Bonn Sonderforschungsbereich 303 - Discussion Paper: 90675-OR; Sonderforschungsbereich 303 an der Universitat Bonn, Adenauerallee 24-42, D-5300 Bonn 1, GERMANY. **PG** 2. **PR** no charge. **JE** C60. **KW** Graph Theory. Circuit.

AB T. Brylawski and J. Oxley asked, if the size of a largest circuit in a graph is a Tutte invariant. We show by an example, that this is not the case.

Schweizer, Martin

PD October 1990. **TI** Mean-Variance Hedging for General Claims. **AA** University of Bonn. **SR** Universitat Bonn Sonderforschungsbereich 303 - Discussion Paper: B-167; Sonderforschungsbereich 303 an der Universitat Bonn, Adenauerallee 24-42, D-5300 Bonn 1, GERMANY. **PG** 10. **PR** no charge. **JE** G11, G12. **KW** Hedging. Contingent Claim. Asset Pricing.

AB We consider a hedger with a mean-variance objective who faces a random loss at a fixed time. The size of this loss depends quite generally on two correlated asset prices, while only one of them is available for hedging purposes. We present a simple solution of this hedging problem by introducing the intrinsic value process of a contingent claim.

TI Hedging of Contingent Calims under Incomplete Information. **AU** Follmer, Hans; Schweizer, Martin.

Scoones, David

TI Promotion, Turnover and Preemptive Wage Offers. **AU** Bernhardt, Dan; Scoones, David.

Scott, Louis O.

PD November 1990. **TI** Financial Market Volatility and the Implications for Market Regulation: A Survey. **AA** International Monetary Fund. **SR** International Monetary Fund Working Paper: WP/90/112; International

Monetary Fund, Washington, DC 20431. **PG** 54. **PR** not available. **JE** G18, G12, G14. **KW** Financial Markets. Efficient Markets. Stock Market. Regulation.

AB Volatility in financial markets has forced economists to reexamine the validity of the efficient markets hypothesis, and new empirical approaches have been applied to the study of this important issue in recent years. Many of the recent studies have found evidence of excessive volatility. In the aftermath of the stock market crash of 1987 and the perceived increase in market volatility, some economists have advocated additional market regulations. Are these proposed regulations necessary and would they serve to reduce market volatility? This paper presents a review of recent studies on financial market volatility and examines the proposed regulations.

Selten, Reinhard

PD December 1988. **TI** Duopoly Strategies Programmed by Experienced Players. **AU** Selten, Reinhard; Mitzkewitz, Michael; Uhlich, Gerald R. **AA** University of Bonn. **SR** Universitat Bonn Sonderforschungsbereich 303 - Discussion Paper: B-106; Sonderforschungsbereich 303 an der Universitat Bonn Adenauerallee 24-42, D5300 Bonn 1, GERMANY. **PG** 55. **PR** no charge. **JE** C91, L13, D43. **KW** Supergame. Oligopoly. Duopoly. Tournaments. Experimental Economics.

AB After 150 years since Cournot (1838) the duopoly problem is still open. An empirically well supported duopoly theory has not yet emerged. Field studies meet the difficulty that cost functions, demand functions, and prices are often insufficiently observable. Game playing experiments permit the control of these basic data. However, only plays are observed and strategies remain hidden. Usually, any given play of a duopoly supergame can be the result of a great multitude of strategy pairs.

PD October 1989. **TI** Properties of a Measure of Predictive Success. **AA** University of Bonn. **SR** Universitat Bonn Sonderforschungsbereich 303 - Discussion Paper: B-130; Sonderforschungsbereich 303 an der Universitat Bonn Adenauerallee 24-42, D5300 Bonn 1, GERMANY. **PG** 21. **PR** no charge. **JE** C91, C90. **KW** Experiments. Experimental Economics. Prediction.

AB The measure of predictive success investigated in this paper has been introduced as an instrument for the comparison of area theories for characteristic function experiments (Selten and Krischler 1983). An area-theory is a theory which predicts a subset of all possible outcomes. The hit rate of a theory is the relative frequency of correct predictions. The hit rate is a measure of accuracy, but accuracy alone cannot be the aim of an area theory. No area theory can be more accurate than the trivial one which simply predicts the set of all possible outcomes. This theory never fails to predict correctly, but it is useless in view of its complete lack of precision.

Senbet, Lemma

TI Corporate Limited Liability and the Design of Corporate Taxation. **AU** John, Kose; Senbet, Lemma; Sundaram, Anant.

Shack-Marquez, Janice

TI Emerging Labor Shortages and Real Wages in the 1990s.
AU Otoo, Maria Ward; Shack-Marquez, Janice.

Sheffrin, Steven M.

PD July 1991. **TI** The Anatomy of a Failure: The Poll Tax in the United Kingdom. **AA** University of California, Davis. **SR** University of California at Davis Research Program in Applied Macro and Macro Policy: 73; Department of Economics, University of California at Davis, Davis, CA 95616-8578. **PG** 24. **PR** no charge. **JE** H21, H23, H24. **KW** Taxation. Poll Tax. Tax System. Taxes.

AB In the Spring of 1991, the government in the United Kingdom announced it would be replacing the poll tax, in effect for less than two years, with another tax. A common perception is that the transparent regressivity and the lack of vertical equity of the tax was the source of its demise. While regressivity was clearly an important factor, there were a number of other critical factors which jointly contributed to the failure of the tax. These other factors included a fundamental revision in the property taxation of business, unanticipated difficulties in administration and compliance, an increase in levels of local taxation due to both increases in local spending and a shortfall of revenue from the central government, and prior limitations on the extent of rebates allowable to offset local taxation. The interaction of these factors created a sense of horizontal inequity which eroded support for the poll tax and forced the government into changing the system. This paper explains these interactions as well as explores some differences in views concerning local government between the United Kingdom and the United States.

Shephard, N. G.

PD November 1990. **TI** A Local Scale Model: An Unobserved Component Alternative to Integrated GARCH Processes. **AA** London School of Economics. **SR** London School of Economics Suntory Toyota International Centre for Economics and Related Disciplines Working Paper: EM/90/220; Suntory-Toyota International Centre for Economics and Related Disciplines, London School of Economics, Houghton Street, London WC2A 2AE, ENGLAND. **PG** 16. **PR** not available. **JE** C22, C51. **KW** ARCH. Heteroskedasticity. Unobserved Components. State Space Model.

AB A state space alternative to Gaussian driven autoregressive heteroskedasticity models is proposed. The measurement density is Gaussian, conditional on the unobservable precision. The precision is assumed to be a gamma variable which evolves by being scaled by a beta variable. The resulting forecast is a t random variable, with a variance which is approximately an EWMA of the squares of the past observations. The degrees of freedom of the t distribution is controlled by the size of the discount parameter of the EWMA procedure. The model is capable of dealing with irregularly spaced observations and generalizes to deal with the cases of regression, ARIMA, and state space models.

Shy, Oz

TI The Crowding-Out Effects of Long Duration of Patents.
AU Chou, Chien-fu; Shy, Oz.

Sichel, Daniel E.

TI Cyclical Patterns in the Variance of Economic Activity.
AU French, Mark W.; Sichel, Daniel E.

Siconolfi, Paolo

TI A Note on Generalizing the Model of Competitive

Equilibrium with Restricted Participation on Financial Markets. **AU** Cass, David; Siconolfi, Paolo; Villanacci, Antonio.

Siebert, Horst

PD 1991. **TI** The Transformation of Eastern Europe. **AA** New York University. **SR** New York University Salomon Brothers Center Working Paper: S-91-14; 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** 27. **PR** $5.00. **JE** P26, D72. **KW** Individual Rights. Democracy. Socialism. Europe.

AB The feature common to the development in all Eastern European countries is the failure of the central planning approach and the need for decentralization. The requirement of a new economic institutional arrangement goes hand in hand with the political demand for individual rights and democratic forms of government. The communist parties have lost their political power in Poland, Hungary, East Germany and Czechoslovakia. We are witnesses of a major historical change.

Silber, William L.

PD January 1991. **TI** Discounts on Restricted Stock: The Impact of Illiquidity on Stock Prices. **AA** New York University. **SR** New York University Salomon Brothers Center Working Paper: S-91-9; 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** G12. **KW** Securities. Asset Pricing. Stock Market.

AB Academic studies of liquidity have focused on bid-asked spreads, dealer behavior and market structure. Relatively little formal evidence has been offered on the impact of liquidity on securities pricing and/or the cost of equity capital (two exceptions are Garbade [1984] and Amihud and Mendelson [1986]. This emphasis is unfortunate because the welfare implications of the considerable real resources devoted to providing financial market liquidity services rests in large measure with the induced reduction in risk and cost of capital (see Silber [1985]). This paper is an empirical study of price differences among securities that are identical in all respects except for resale provision.

Sims, Christopher A.

PD July 1991. **TI** Comment on "To Criticize the Critics," by Peter C. B. Phillips. **AA** Yale University. **SR** Yale Cowles Foundation Discussion Paper: 985; Yale University, Cowles Foundation, Box 2125, Yale Station, New Haven, CT 06520. **PG** 19. **PR** $2.00. **JE** C11, C22. **KW** Bayesian Analysis. Time Series. Unit Roots.

AB In his paper "To Criticize the Critics" [1991], Peter Phillips discusses Bayesian methodology for time series models. The main point that Uhlig and I set out to make, however, was that careful consideration of the implications of the likelihood principle suggests that much of the recent work under the "unit root" label in the econometrics literature is being incorrectly interpreted in practice. We pointed out that time series models with possible unit roots are one of the few domains within which the implications of a likelihood principle approach to inference are different, even in large samples, from those of a classical hypothesis testing approach. Phillips addresses this part of our paper only indirectly.

Sinclair, Peter J. N.

PD July 1991. **TI** The Scope and Nature of Monetary Economics. **AA** Brasenose College, Oxford and Queen's University. **SR** Oxford Applied Economics Discussion Paper: 113; Institute of Economics and Statistics, St. Cross Building, Manor Road, Oxford OX1 3UL, ENGLAND. **PG** 38. **PR** not available. **JE** E44, E41, E51. **KW** Monetary Economics.

AB This paper takes the opportunity provided by the publication of the Handbook of Monetary Economics to examine the scope and nature of monetary economics. It poses four central questions in contemporary monetary economics and discusses answers to them. The paper also considers the rate of depression of publications on monetary topics, their geographical provenance, and directions that future monetary research might take.

Siniscalco, Domenico

TI Strategies for the International Protection of the Environment. **AU** Carraro, Carlo; Siniscalco, Domenico.

Skott, Peter

PD April 1990. **TI** Non-Uniqueness of Rational Expectations Equilibria: A Comment. **AA** University of Aarhus. **SR** Aarhus Institute of Economics Memo: 1990-11; Institute of Economics, University of Aarhus, Building 350, Universitetsparken, DK-8000 Aarhus C, DENMARK. **PG** 13. **PR** no charge. **JE** D82, D84, D21, D41. **KW** Rational Expectations. Island Models. Prices.

AB In a recent paper, Andersen has argued that the rational expectations equilibrium may not be unique in a simple islands model with global and local shocks. It is suggested in particular that a fully revealing equilibrium will be established if agents take into account both price and quantity information. Andersen's claim, however, is not correct. In this note it is shown that quantities and prices do not contain different information in the simple islands model specified by Andersen and that this model does not posses a fully revealing equilibrium.

Smith, Anthony A., Jr

PD May 1991. **TI** Solving Stochastic Dynamic Programming Problems Using Rules of Thumb. **AA** Queen's University. **SR** Queen's Institute for Economic Research Discussion Paper: 816; Department of Economics, Queen's University, Kingston, Ontario, CANADA K7L 3N6. **PG** 36. **PR** $3.00 Canada; $3.00 U.S.; $3.50 foreign. **JE** C61, O41, E17. **KW** Monte Carlo Simulation. Dynamic Programming. Growth Model.

AB This paper develops a new method for constructing approximate solutions to discrete time, infinite horizon, discounted stochastic dynamic programming problems with convex choice sets. The key idea is to restrict the decision rule to belong to a parametric class of functions. The agent then chooses the best decision rule from within this class. Monte Carlo simulations are used to calculate arbitrarily precise estimates of the optimal decision rule parameters. The solution method is used to solve a version of the Brock-Mirman (1972) stochastic optimal growth model. For this model, relatively simple rules of thumb provide very good approximations to optimal behavior.

Smith, Roy C.

PD December 1990. **TI** Privatization Programs of the 1980s: Lessons for the Treuhandanstalt. **AA** New York University and Goldman, Sachs & Co. **SR** New York University Salomon Brothers Center Working Paper: S-90-31; 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** 24. **PR** $5.00. **JE** L33, P52, P12, O20. **KW** Privatization. Socialism. Germany. Economic Policy.

AB During the 1980's, political changes of enormous magnitude began to occur in communist countries where centralized Soviet-type economies had failed. It was a time of great activity in mergers and acquisitions and stock market transactions, which followed in the path of economic policy changes by many leading governments towards deregulation, market integration and privatization, one of the most popular and effective forms of financial innovation introduced during the entire period. In this paper I review some of the basic lessons from the privatization experience of Western Europe and the United States and comment on how these apply to the German situation today.

Smith, Vernon L.

TI Theory and Misbehavior in First Price Auctions: Comment. **AU** Cox, James C.; Smith, Vernon L.; Walker, James M.

PD May 1991. **TI** Economic Principals in the Emergence of Humankind. **AA** University of Arizona. **SR** University of Arizona Economics Working Paper: 91-8; Department of Economics, Bldg #23, University of Arizona, Tucson, AZ 85721. **PG** 50. **PR** $2 Canada and U.S.; $3 Overseas by air. **JE** A12, J24. **KW** Economic Prehistory. Economic Anthropology. Human Ecology.

AB We propose a theory (speculative account) of the influence of natural economy on the emergence and development of humankind from bipedalism over 6 million years ago to the agricultural revolution in the last 10,000 years. The two primary integrating threads for organizing our limited evidence are the conditioning role of opportunity costs, and the significance of human capital formation as the basis of early hunting and gathering, the late Pleistocence revolution in Cro-Magnon technology, art and language, and finally agriculture. The rich trappings of "culture" are interpreted as a means of preserving and transmitting the learning embodied in society's adaptive response to opportunity costs.

PD May 1991. **TI** Game Theory and Experimental Economics: Beginnings and Early Influences. **AA** University of Arizona. **SR** University of Arizona Economics Working Paper: 91-5; Department of Economics, Bldg #23, University of Arizona, Tucson, AZ 85721. **PG** 75. **PR** $2 Canada and U.S.; $3 Overseas by air. **JE** B21, B31, C70, C90. **KW** Game Theory. Experimental Economics. Economic Thought.

AB This is a history of game theory and experimentation based on my personal impressions and those of Shubik, Simon, Friedman and Selten. I discuss the 1952 Santa Monica seminar which particularly influenced Selten, Simon and (through Simon) Siegel. The role of Siegel and Fouraker in the development of experimental economics and its connections with later and current research is discussed. Finally, I provide some personal recollections of the "middle years," 1963-1975, prior to the explosive take-off of experimental economics in the late 1970's and the 1980's.

Sondermann, Dieter

TI A Term Structure Model and the Pricing of Interest Rate Derivatives. **AU** Sandmann, Klaus; Sondermann, Dieter.

Song, Lina

TI The Length of Life and the Standard of Living: Economic Influences on Premature Death in China. **AU** Knight, John; Song, Lina.

Sorensen, Jan Rose

TI Interest Rate Spreads and Exchange Rate Variability. **AU** Andersen, Torben M.; Sorensen, Jan Rose.

PD October 1990. **TI** Political Uncertainty and Macroeconomic Performance. **AA** University of Aarhus. **SR** Aarhus Institute of Economics Memo: 1990-26; Institute of Economics, University of Aarhus, Building 350, Universitetsparken, DK-8000 Aarhus C, DENMARK. **PG** 13. **PR** no charge. **JE** E42, E61, J51, E32. **KW** Uncertainty. Unions. Political Economics. Economic Fluctuations. Business Cycle.

AB It is very often claimed that politically induced economic fluctuations are harmful for the society as a whole. In this paper we show that this conjecture is not necessarily correct, and it is possible that politically induced fluctuations actually improve the society's macroeconomic performance. In our model, political uncertainty (i.e. unknown government objectives) gives a strong labor union an incentive to set a lower wage rate, and - given that the union, otherwise, wants a real wage which is "too high" - this may improve macroeconomic performance.

PD October 1990. **TI** Uncertainty and Stagflation in a Wage Bargaining Model. **AA** University of Aarhus. **SR** Aarhus Institute of Economics Memo: 1990-25; Institute of Economics, University of Aarhus, Building 350, Universitetsparken, DK-8000 Aarhus C, DENMARK. **PG** 21. **PR** no charge. **JE** E52, E42, E24, E63. **KW** Uncertainty. Stagflation. Unemployment. Stabilization Policy.

AB In this paper we show that increased uncertainty concerning monetary and real aggregates may give rise to a higher equilibrium unemployment rate. However, we also show that it is likely that the equilibrium unemployment rate may be decreased by use of an active stabilization policy, but the cost of such a policy is a higher equilibrium inflation rate. Furthermore, the equilibrium inflation rate then becomes dependent on the uncertainty, and an increased equilibrium unemployment rate and a higher equilibrium inflation rate - or what has been called stagflation.

PD November 1990. **TI** Profit-Sharing in a Unionized Cournot Duopoly. **AA** University of Aarhus. **SR** Aarhus Institute of Economics Memo: 1990-29; Institute of Economics, University of Aarhus, Building 350, Universitetsparken, DK-8000 Aarhus C, DENMARK. **PG** 25. **PR** no charge. **JE** J33, J51, L13, D43. **KW** Unions. Duopoly.

AB The main purpose of this paper is to analyze when it is optimal for firms in a unionized duopoly to introduce profit-sharing. It is shown that a firm only prefers a profit-sharing system if its own union does not have "too much" bargaining power. However, if a firm introduces profit-sharing, the employment level increases, and the real price in the goods market decreases. Hence, even if it is not in the own interest of a firm to introduce profit-sharing, it may be in the interest of the society.

TI Exchange Rate Risks, Interest Rates and European Monetary Integration. **AU** Andersen, Torben M.; Sorensen, Jan Rose.

Sorensen, Nils K.

PD August 1990. **TI** A Model to Measure Economic Linkages and the International Element between Germany and Eight Small Open Economies. **AA** University of Aarhus. **SR** Aarhus Institute of Economics Memo: 1990-20; Institute of Economics, University of Aarhus, Building 350, Universitetsparken, DK-8000 Aarhus C, DENMARK. **PG** 55. **PR** no charge. **JE** F15, F41, E32. **KW** Open Economy. Macroeconomic Model. Economic Integration. Economic Fluctuations. Business Cycle.

AB The paper develops an aggregated framework to measure the degree of foreign impact from a large economy, acting as the economic leader, on a small open economy. We name this tool the international element in economic time series. Based on the idea that the fluctuations in an arbitrary chosen economic variable to a large extent is inertial, a model is set up to compute the unobserved international element. The model is used to analyze the transmission effects between Germany and a group of eight small open economies. Based on quarterly observations from 1960.1 to 1988.4 we compute partial and aggregated international elements in four variables: Prices, wages, unemployment, and broad money. Although a diversified picture is revealed, some similar patterns are found. The process of integration took place mainly during the seventies. Germany is apparently more integrated with the small central European economies than with the Nordic countries. Transmission periods are very short.

TI Seasonality in Macroeconomic Time Series. **AU** Hylleberg, Svend; Jorgensen, Clara; Sorensen, Nils K.

PD August 1991. **TI** Intra-Industry Trade in Denmark and Ireland: A Comparison. **AU** Sorensen, Nils K.; Dalum, B.; Madsen, Strojer E.; Nielsen, Ulff-Moller J. **AA** Sorensen: University of Aarhus. Dalum: University Centre of Aalburg. Madsen and Nielsen: Aarhus school of Business. **SR** Aarhus Institute of Economics Memo: 1991-19; Institute of Economics, University of Aarhus, Building 350, Universitetsparken, DK-8000 Aarhus C, DENMARK. **PG** 34. **PR** no charge. **JE** F14, F15, F21, F41. **KW** Foreign Investment. Open Economy. International Trade.

AB This paper examines the development in the intra-industry trade pattern in two small open economies within the period 1961-1987. We compute Grubel-Lloyd indices and examine both the time pattern, the country pattern and the product pattern. For both countries the level of intra-industry trade has grown rapidly and product differentiation has increased. However, this process occurred later in Ireland. We confirm the importance of the Linder-hypothesis although it has been of decreasing magnitude. The entry into the European Community only affected the Danish trade pattern. The Irish policy of attracting direct foreign investment in high technological industries has led to an increase in the intra-industry trade level. However, technological spillovers to domestic firms have been low. Also, Denmark suffers from structural problems due to export specialization in low technology products.

Stacchetti, Ennio

TI A Bound on the Proportion of Strategy Equilibria in Generic Games. **AU** Gul, Faruk; Pearce, David G.; Stacchetti, Ennio.

Steckel, Richard H.

PD April 1991. **TI** Stature and Living Standards in the United States. **AA** Ohio State University. **SR** National Bureau of Economic Research Working Paper Series on Historical Factors and Long-Run Growth: 24; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PG** 74. **PR** $2.00. **JE** I31, N31. **KW** Living Standards. Poverty.

AB This paper briefly reviews the literature on the evolution of approaches to living standards and then applies the methodology discussed for stature to the United States from the late 18th through the early 20th centuries. Part I of the paper emphasizes two major strands of the subject: national income accounting and related measures, developed by economists and government policy-makers, and anthropometric measures (particularly stature), developed by human biologists, anthropologists, and the medical profession. Part II examines the relationship of stature to living standards beginning with a discussion of sources of evidence and the growth process. Part III presents evidence on time trends, regional patterns, and class differences in height.

Steger, Angelika

TI Coloring Clique-Free Graphs in Linear Expected Time. **AU** Promel, Hans Jurgen; Steger, Angelika.

Stein, Jerome L.

TI The Real Exchange Rate and Balance of Trade in a Small Open Economy: The Case of Australia. **AU** Lim, G. C.; Stein, Jerome L.

PD August 1991. **TI** Price Discovery Processes. **AA** Brown University. **SR** Brown University Department of Economics Working Paper: 91-22; Department of Economics, Brown University, Providence, Rhode Island 02912. **PG** 23. **PR** not available. **JE** G13, G14, D84. **KW** Futures Markets. Rational Expectations. Prices. Public Information.

AB This paper analyzes two price discovery processes: OLS learning from public information and a Bayesian learning made feasible by futures markets. The former tends to produce cobweb behavior. In the latter, there is no cobweb, there is a faster convergence to Muth Rational Expectations and the forecast errors are positively serially correlated. The evidence drawn from the Sydney Futures Exchange is consistent with the Bayesian learning process.

Stekler, Lois E.

PD July 1991. **TI** The Statistical Discrepancy in the U.S. International Transactions Accounts: Sources and Suggested Remedies. **AA** Board of Governors of the Federal Reserve System. **SR** Board of Governors of the Federal Reserve System International Finance Discussion Papers: 404; Division of International Finance, Board of Governors of the Federal Reserve System, Washington, DC 20551. **PG** 49. **PR** no charge. **JE** F33, C81, C82. **KW** Data Collection. International Economics. Current Account.

AB The statistical discrepancy in the U.S. international transactions accounts has tended to be both large and positive over the last decade and a half. In 1990 the statistical discrepancy rose by $45 billion to a record $64 billion and brought the cumulative discrepancy since 1960 to almost $250 billion. The size and persistence of this discrepancy has called into question the accuracy of the data on the U.S. current and capital accounts. This paper attempts to find clues to the sources of the statistical discrepancy by 1) reviewing past history, 2) examining the data sources for each major component of the U.S. international transactions accounts, and 3) using regression analysis. The paper concludes with a list of recommendations for data improvements.

Stone, Mark R.

PD February 1991. **TI** On the Information Content of LDC Secondary Loan Market Prices. **AA** International Monetary Fund. **SR** International Monetary Fund Working Paper: WP/91/20; International Monetary Fund, Washington, DC 20431. **PG** 12. **PR** not available. **JE** F34, O16. **KW** Developing Countries. Private Debt. Secondary Market.

AB This note examines the impact of measurable and unmeasurable (not correlated with observed aggregates) information on secondary market LDC loan prices. The "Institutional Investor" country risk ratings are used to construct a proxy for the non-quantifiable information that moves debt market values. Regression results indicate that market participants use both macroeconomic aggregates and unmeasurable information to price LDC loans. This implies that price reliability, and, in fact, such price movements may well be conveying important information not quantified elsewhere.

Stratton, Leslie S.

PD July 1991. **TI** Identifying Discouraged Workers and Their Relative Attachment to the Labor Market. **AA** University of Arizona. **SR** University of Arizona Economics Working Paper: 91-2; Department of Economics, Bldg #23, University of Arizona, Tucson, AZ 85721. **PG** 14. **PR** $2 Canada and U.S.; $3 Overseas by air. **JE** J21, J26. **KW** Labor Force. Employment. Unemployment. Public Policy.

AB The goal of this paper is to use data from the March 1988 Current Population Survey to ascertain whether there are individuals who satisfy the theoretical conditions placed upon discouraged workers and whether the differences between these individuals and the unemployed are significant enough to justify excluding the former from labor force statistics. The results suggest that it is possible to satisfy some individuals as discouraged, but that the government's definition is arbitrarily strict. When compared with the unemployed, these individuals are found to be substantially less attached to the labor market. Their exclusion from labor force statistics would appear to be justifiable.

Strock, Elizabeth

TI Managers, Owners, and the Pricing of Risky Debt: An Empirical Analysis. **AU** Milonas, Nikolaos T.; Saunders, Anthony; Strock, Elizabeth; Travlos, Nickolaos G.

TI Managers, Owners, and the Pricing of Risky Debt: An Empirical Analysis. **AU** Milonas, Nikolaos T.; Saunders, Anthony; Strock, Elizabeth; Travlos, Nickolaos G.

Subrahmanyam, Avanidhar

TI Risk Aversion, Imperfect Competition, and Long-Lived Information. **AU** Holden, Craig W.; Subrahmanyam, Avanidhar.

Suda, Shinichi

PD June 1991. **TI** Real Indeterminacy of Equilibria in a Sunspot Economy with Inside Money. **AU** Suda, Shinichi; Tallon, Jean-Marc; Villanacci, Antonio. **AA** Tallon and Suda: University of Pennsylvania. Villanacci: Universita di Economia e Commercio di Firenze. **SR** University of Pennsylvania Center for Analytic Research in Economics and the Social Sciences (CARESS) Working Paper: 91-15; University of Pennsylvania, Center for Analytic Research in Economics and the Social Sciences, McNeil Building, 3718 Locust Walk, Philadelphia, PA 19104-6297. **PG** 30. **PR** no charge. **JE** D11, D51, D61. **KW** Sunspots. Utility Functions. Endowments.

AB In a two period sunspot economy with inside money and S realizations of the sunspot, we prove that generically in the space of utility functions there are S-1 degrees of real indeterminacy, i.e., the set of equilibrium allocations contains the image of a S-1 dimension manifold via a C(1), one to one function. This result is obtained without assuming intertemporal separability of the utility function and generalizes the known result that generically in endowments, there is a continuum of equilibria, i.e., there is at least one degree of real indeterminacy. The proof involves showing that generically the equilibrium good allocations are different across states for some household. This result then allows us to perturb the utility function in a simple way and to apply standard transversality arguments to prove our main theorem.

Sulem, Agnes

TI Explicit Solution of Inventory Problems with Delivery Lags. **AU** Bar-Ilan, Avner; Sulem, Agnes.

Sultan, Jahangir

TI Time Varying Distributions and Dynamic Hedging with Foreign Currency Futures. **AU** Kroner, Kenneth F.; Sultan, Jahangir.

Sundaram, Anant

TI Corporate Limited Liability and the Design of Corporate Taxation. **AU** John, Kose; Senbet, Lemma; Sundaram, Anant.

Sundararajan, V.

PD December 1990. **TI** Financial Sector Reform and Central Banking in Centrally Planned Economies. **AA** International Monetary Fund. **SR** International Monetary Fund Working Paper: WP/90/120; International Monetary Fund, Washington, DC 20431. **PG** 21. **PR** not available. **JE** E58, O11, O57. **KW** Central Bank. Socialism. Stabilization Policy.

AB This paper reviews key areas of central banking reform in a sample of centrally planned economies undergoing transition to market-based systems. The discussion draws mainly on the experiences of four countries, Hungary, Poland, Czechoslovakia, and China. Significant efforts have been made, or are under consideration, in all countries to develop a more efficient framework for monetary management, and to provide greater autonomy to central banks in macro stabilization policies. These objectives call for a coordinated approach to strengthening a wide range of central banking functions simultaneously, and require that a core mass of supporting financial sector reforms be implemented to ensure effective transformation and stabilization with minimal transitional costs.

Surchat, Marc

TI Consequences Macroeconomiques du Vieillissement Demographique: Lecons d'un Modele Adapte au cas de l'Economie Suisse. **AU** Danthine, Jean-Pierre; Surchat, Marc.

Svensson, Lars E. O.

PD July, 1991. **TI** Assessing Target Zone Credibility: Mean Reversion and Devaluation Expectations in the EMS. **AA** Institute for International Economic Studies, Stockholm. **SR** CEPR Discussion Paper: 580; Centre for Economic Policy Research, 6 Duke of York Street, London SW1Y 6LA, United Kingdom. **PG** 45. **PR** Pounds 3.00 or $5.00. **JE** F31, F33. **KW** Exchange Rate. Target Zone. Realignment. Unit Root Devaluation. EMS. Mean Reversion.

AB The paper presents estimates of devaluation expectations for six EMS currencies relative to the Deutschmark, for the period March 1979-May 1990. The estimation method is simple and operational, and consistently generates sensible results. The estimates are constructed by the adjusting interest rate differentials by subtracting estimated expected rates of depreciation within the exchange rate band. The adjustment is non-trivial because exchange rates within ERM bands display mean reversion rather than random walk (unit root) behaviour. The adjustment is essentialsince expected rates of depreciation within the band are usually of about the same magnitude as interest rate differentials.

Swinburne, Mark

PD June 1991. **TI** Central Bank Independence: Issues and Experience. **AU** Swinburne, Mark; Castello-Branco, Marta. **AA** International Monetary Fund. **SR** International Monetary Fund Working Paper: WP/91/58; International Monetary Fund, Washington, DC 20431. **PG** 55. **PR** not available. **JE** E58, E42, E52. **KW** Central Bank. Monetary Policy.

AB There has been growing interest recently in the scope for promoting monetary stability through the establishment of independent central banks. This paper reviews the issues involved in central bank independence against the background of arrangements in nine countries. The analysis suggests that detailed institutional arrangements would need to be carefully designed if the potential benefits of central bank independence are to be delivered. Particularly important are the nature of arrangements to resolve various types of conflicts involving monetary policy, and arrangements to promote accountability and public monitoring of monetary policy performance.

Symansky, Steven

TI International VAT Harmonization: Economic Effects. **AU** Frenkel, Jacob A.; Razin, Assaf; Symansky, Steven.

Symons, James

TI Endogenous Separations in a Matching Model. **AU** Newell, Andrew; Symons, James.

TI The Causes of Ireland's Unemployment. **AU** Newell, Andrew; Symons, James.

Szafarz, A.

TI Computation of Multipliers in Multivariate Rational Expectations Models. **AU** Broze, L.; Gourieroux, C.; Szafarz, A.

Tallon, Jean-Marc

TI Real Indeterminacy of Equilibria in a Sunspot Economy with Inside Money. **AU** Suda, Shinichi; Tallon, Jean-Marc; Villanacci, Antonio.

Tanzi, Vito

PD January 1991. **TI** Interest Rates and Government Debt: Are the Linkages Global Rather than National? **AU** Tanzi, Vito; Lutz, Mark S. **AA** International Monetary Fund. **SR** International Monetary Fund Working Paper: WP/91/6; International Monetary Fund, Washington, DC 20431. **PG** 33. **PR** not available. **JE** F36, G15, E62, F15. **KW** Economic Integration. Financial Markets. Interest Rate. Fiscal Policy. Budget Deficit. Government Spending.

AB Given the increasing integration of financial markets, a better understanding of the effects of fiscal deficits and debt on real interest rates might be obtained by taking a global, rather than a national, perspective. The paper constructs aggregate flow and stock data (including GDP, fiscal deficits, government debt, and saving rates) and examines the empirical evidence of the global effect of fiscal policies on interest rates. The sensitivity of the results to the choice of deficit (central or general government), public debt (gross or net), and saving (gross or net), as well as the level and method of aggregation, is also examined.

PD January 1991. **TI** Mobilization of Savings in Eastern European Countries: The Role of the State. **AA** International Monetary Fund. **SR** International Monetary Fund Working Paper: WP/91/4; International Monetary Fund, Washington, DC 20431. **PG** 22. **PR** not available. **JE** O16, P24, O11, O52. **KW** Savings. Investment. Economic Development. Europe. Economic Reform.

AB As the countries of Eastern and Central Europe transform their economies from centrally planned to market oriented, the question of the role that the governments should play in mobilizing savings to ensure a high rate must be addressed. This paper argues that the issue of a good allocation of savings must precede that of mobilization. Much evidence suggests that major distortions have, in the past, dramatically reduced the productivity of investment. The paper discusses some of the institutional changes that will be necessary to ensure a better allocation of savings.

PD March 1991. **TI** Tax Reform in Economies in Transition: A Brief Introduction to the Main Issues. **AA** International Monetary Fund. **SR** International Monetary Fund Working Paper: WP/91/23; International Monetary Fund, Washington, DC 20431. **PG** 23. **PR** not available. **JE** P21, P23. **KW** Market Economy. Socialism. Taxes.

AB The transition from a command to a market economy requires profound reforms of the tax system. Such a transition will put downward pressures on the level of taxation at a time when public expenditure remains high. This paper outlines the main characteristics of the tax systems in centrally planned economies. It describes recent changes in those tax systems.

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Finally, it discusses the major difficulties that will be faced, and the errors that must be avoided, during the transition.

Tavlas, George S.

PD January 1991. **TI** The Japanese Yen as an International Currency. **AU** Tavlas, George S.; Ozeki, Yuzuru. **AA** International Monetary Fund. **SR** International Monetary Fund Working Paper: WP/91/2; International Monetary Fund, Washington, DC 20431. **PG** 55. **PR** not available. **JE** F33, G15, F36. **KW** Currency. International Trade. International Finance. Japan.

AB The role of the Japanese yen as an international currency is assessed. It is found that the determinants of international currency use imply some increase for the yen's use in international finance; however, the implications for the yen's use in international trade are mixed. It is also shown that, despite Japan's emergence as the world's largest net creditor nation, Japan's capital outflows have not significantly facilitated the yen's internationalization. Data are presented showing that, although the yen's use as an international currency has increased, it is still rather modest. Wider use of the yen as a regional currency in Asia has occurred, though a "yen-zone" does not appear to be emerging.

TI What Have We Learned about Estimating the Demand for Money? A Multicountry Evaluation of some New Approaches. **AU** Boughton, James M.; Tavlas, George S.

Taylor, Mark P.

PD December 1990. **TI** Long-Run Purchasing Power Parity and the Dollar-Sterling Exchange Rate in the 1920s. **AA** City University Business School, Centre for Economic Policy Research and International Monetary Fund. **SR** International Monetary Fund Working Paper: WP/90/118; International Monetary Fund, Washington, DC 20431. **PG** 17. **PR** not available. **JE** F31, E42. **KW** Purchasing Power Parity. Gold Standard. Exchange Rate.

AB This paper replies to Ahking's (1990) re-examination of Taylor and McMahon's (1988) analysis of long-run purchasing power parity in the 1920's. We demonstrate that Ahking's conclusions are only partially correct and re-establish our conclusion that a form of long-run purchasing power parity did in fact hold for the dollar-sterling during this period. The new results are also employed to gauge the degree of overvaluation of sterling relative to the imposed prewar parity of $4.86 upon its return to gold and for 12 months afterwards.

PD May 1991. **TI** The Demand for Money during High Inflation Episodes: Some Latin American Evidence on the Cagan Model. **AU** Taylor, Mark P.; Phylaktis, Kate. **AA** International Monetary Fund. **SR** International Monetary Fund Working Paper: WP/91/48; International Monetary Fund, Washington, DC 20431. **PG** 18. **PR** not available. **JE** E41, E31, O57, E47. **KW** Money Demand. Inflation.

AB This paper examines the demand for money under conditions of very high inflation in Argentina, Bolivia, Brazil, Chile and Peru during the 1970's and 1980's. We test whether the monetary and inflationary experiences of these countries can be adequately characterized by the Cagan (1956) model, using an econometric procedure which is not reliant on any particular assumption concerning expectations formation except that forecasting errors are stationary. We also examine the importance of foreign asset substitution in domestic portfolios.

TI Exchange Rate Economics: A Survey. **AU** MacDonald, Ronald; Taylor, Mark P.

Teja, Ranjit

TI Globalization of Financial Markets and Implications for Pacific Basin Developing Countries. **AU** Goldsbrough, David; Teja, Ranjit.

Telmer, Chris I.

PD February 1991. **TI** Asset Pricing Puzzles and Incomplete Markets. **AA** Queen's University. **SR** Queen's Institute for Economic Research Discussion Paper: 806; Department of Economics, Queen's University, Kingston, Ontario, CANADA K7L 3N6. **PG** 50. **PR** $3.00 Canada; $3.00 U.S.; $3.50 foreign. **JE** D91, D52, G11, G12. **KW** Incomplete Markets. Asset Markets. Intertemporal Model. Endowment. Asset Pricing.

AB An endowment economy with heterogeneous agents and incomplete asset markets is specified, parameterized and solved using a numerical solution algorithm. The model features two types of infinitely lived agents who are endowed with different sources of non-tradable income. Despite not being able to insure against endowment risk, individuals are able to partially diversify away idiosyncratic risk by trading in a limited set of competitive asset markets. Numerical results indicate that the model can account for substantially more of the variability in intertemporal marginal rates of substitution documented by Hansen and Jagannathan (1990) than can models based on a representative agent. In addition, the model can generate a mean risk-free rate of interest smaller than the rate of time preference and potentially account for the so called "risk-free rate puzzle.".

Terlizzese, Daniele

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

Tersman, Gunnar

PD June 1991. **TI** Oil, National Wealth, and Current and Future Consumption Possibilities. **AA** International Monetary Fund. **SR** International Monetary Fund Working Paper: WP/91/60; International Monetary Fund, Washington, DC 20431. **PG** 36. **PR** not available. **JE** Q32, E23. **KW** Exhaustible Resources. Natural Resources.

AB This paper offers a discussion about the macroeconomics of exhaustible resources. In a resource-based economy, long-term sustainability is an obvious issue. This paper outlines some ideas on how to treat issues related to exhaustible resources in a macroeconomic context. Based on a small dynamic general equilibrium model, the approach is demonstrated with the help of some simple numerical examples.

Thomas, Jonathan

PD March 1991. **TI** On Testing the Logistic Assumption in Binary Dependent Variable Models. **AA** University of Cambridge. **SR** University of Cambridge DAE Working Paper: 9109; Department of Applied Economics, University of Cambridge, Sidgwick Avenue, Cambridge CB3 9DE, UNITED KINGDOM. **PG** 24. **PR** $4.00 (2.00 pounds), checks

payable to University of Cambridge. **JE** C25, C12, C52. **KW** Logit Model. Artificial Regression. Monte Carlo. Dependent Variables. LM Test.
AB This note shows that the LM test for the validity of the logistic distribution commonly assumed in Binary Dependent Variable Models (i.e., the logit model) developed by Poirier can be obtained from a simple artificial regression. Monte Carlo simulations examine the small sample behavior of the test statistic in comparison to the Information Matrix test for the logit model developed by Orme (1988) and Davidson and MacKinnon (1989), and two versions of the Reset test for limited dependent variable models suggested by Pagan and Vella (1990).

PD April 1991. **TI** Job Search Strategy, Expected Wages, and Sectoral Movers and Stayers. **AU** Thomas, Jonathan; Bernhardt, Dan. **AA** Thomas: University of Cambridge. Bernhardt: Queen's University. **SR** Queen's Institute for Economic Research Discussion Paper: 810; Department of Economics, Queen's University, Kingston, Ontario, CANADA K7L 3N6. **PG** 46. **PR** $3.00 Canada; $3.00 U.S.; $3.50 foreign. **JE** J64. **KW** Search Theory. Unemployment. .
AB This paper develops theories of multi-sector search by unemployed workers. The paper then attempts to distinguish empirically whether unemployed workers target their job search efforts exclusively on a particular sector at any point in time, or whether they search in a "non-targeted" fashion across all sectors. We look at two types of sectoral movements -- between occupation and between industry. We employ both a standard probit formulation and a "competing-risk" formulation (to estimate the semiparametric hazard into the pre-unemployment sector and an alternative sector). The common implications of both models are supported by the results, which provide strong support for multi-sector search formulations over single-sector formulations. However, we are unable to distinguish empirically between the alternative models of multi-sector search.

Traa, Bob M.

PD June 1991. **TI** Money Demand in the Netherlands. **AA** International Monetary Fund. **SR** International Monetary Fund Working Paper: WP/91/57; International Monetary Fund, Washington, DC 20431. **PG** 23. **PR** not available. **JE** E41, O52. **KW** Money Demand. Netherlands.
AB This paper analyzes the demand for narrow money balances in the Netherlands. Demand for narrow money balances had increased markedly in relation to GNP in the Netherlands throughout the 1980's. This phenomenon could not be explained satisfactorily with traditional Goldfeld-type money demand functions which had performed well until that time. Drawing on advances in dynamic modeling from the error correction and cointegration literature, and incorporating yield-curve effects and the exchange rate of the guilder with the U.S. dollar as additional monetary indicators significantly improves the performance of money demand estimates.

Tran, Hong-Anh

TI PC-GIVE and David Hendry's Econometric Methodology. **AU** Ericsson, Neil R.; Campos, Julia; Tran, Hong-Anh.

Tuckman, Bruce

TI The Tale of Two Bond Swaps. **AU** Kalotay, Andrew; Tuckman, Bruce.

Tullock, Gordon

PD January 1991. **TI** A Modest Proposal for Lowering the Cost of Health Insurance. **AA** University of Arizona. **SR** University of Arizona Economics Working Paper: 91-1; Department of Economics, Bldg #23, University of Arizona, Tucson, AZ 85721. **PG** 16. **PR** $2 Canada and U.S.; $3 Overseas by air. **JE** I11, I12. **KW** Medical Insurance. Health Costs. Health Care. Medical Costs.
AB Current costs of health insurance are extremely high. The suggestion that paying the money directly to the person who is sick would give him incentive to hunt for cheap doctors and hospitals and hence would tend to bring pressure to bear to pull the prices down.

PD February 1991. **TI** Games and Risk. **AU** Tullock, Gordon; Boetz, Charles J. **AA** Tullock: University of Arizona. Goetz: University of Virginia. **SR** University of Arizona Economics Working Paper: 91-3; Department of Economics, Bldg #23, University of Arizona, Tucson, AZ 85721. **PG** 10. **PR** $2 Canada and U.S.; $3 Overseas by air. **JE** D11, D81. **KW** Games. Risks. Preferences.
AB The fact that people take risks voluntarily in Las Vegas and avoid risks in buying insurance has puzzled economists for a long time. This article attempts to solve the problems by making a set of assumptions about preference functions which are both reasonable and fairly simple.

PD June 1991. **TI** Rationality with Economy. **AA** University of Arizona. **SR** University of Arizona Economics Working Paper: 91-18; Department of Economics, Bldg #23, University of Arizona, Tucson, AZ 85721. **PG** 6. **PR** $2 Canada and U.S.; $3 Overseas by air. **JE** B21, D11, D41. **KW** Rationality. Psychology. Perfect Competition.
AB This paper is a reply to a paper by Frank. The theme is that people are much more rational than the psychologists have thought, although they are not as rational as perfect competition models assume.

Tuza, Zsolt

TI Bipartite Subgraphs of Triangle-Free Graphs. **AU** Poljak, Svatopluk; Tuza, Zsolt.

Udell, Gregory F.

TI Deposit Insurance: What are the Issues and What Needs to be Fixed? **AU** Berlin, Mitchell; Saunders, Anthony; Udell, Gregory F.

Uhlich, Gerald R.

TI Duopoly Strategies Programmed by Experienced Players. **AU** Selten, Reinhard; Mitzkewitz, Michael; Uhlich, Gerald R.

Uhlig, Harald

TI Portfolio Insurance and Asset Prices. **AU** Donaldson, R. Glen; Uhlig, Harald.

Valtr, Pavel

PD December 1990. **TI** Sets in IR(d) with No Large Empty Convex Subsets. **AA** Charles University, Prague. **SR** Universitat Bonn Sonderforschungsbereich 303 - Discussion Paper: 90670-OR; Sonderforschungsbereich 303 an der Universitat Bonn, Adenauerallee 24-42, D-5300 Bonn 1,

GERMANY. **PG** 7. **PR** no charge. **JE** C60. **KW** Convex Polytope. Set Theory. Combinatorial Problem.
AB Let A be a finite set of points in general position in R(d), d greater than or equal to 2. Points a(1), a(2),...,a(n) elements of A form an n-hole in A (an empty convex subset of A) if they are vertices of a convex polytope containing no other point of A. Let h(d) denote the maximum number h such that any sufficiently large set of points in general position in R(d) contains an h-hole. For any d greater than or equal to 2, we show that 2d+1 less than or equal to h(d) less than or equal to (2 raised to the d-1 power) (P(d-1)+1), where P(d-1) is the product of the smallest d-1 prime numbers. For d=3 we show a better upper bound: h(3) less than or equal to 22.

PD February 1991. **TI** Convex Independent Sets and 7-Holes in Restricted Planar Point Sets. **AA** Charles University, Prague. **SR** Universitat Bonn Sonderforschungsbereich 303 - Discussion Paper: 90674-OR; Sonderforschungsbereich 303 an der Universitat Bonn, Adenauerallee 24-42, D-5300 Bonn 1, GERMANY. **PG** 16. **PR** no charge. **JE** C60. **KW** Horton Sets. Planar Point Sets. Convex Sets.
AB For a finite set A of points in the plane, let q(A) denote the ratio of the maximum distance of any pair of points of A to the minimum distance of any pair of points of A. For k greater than 0 let the kth C(alpha) denote the largest integer c such that any set A of k points in general position in the plane, satisfying q(A) less than alpha(square root of k) for fixed alpha greater than or equal to the square root of (2(square root of 3) divided by pie) = 1.05, contains at least c convex independent points. We determine the exact asymptotic behavior of the kth c(alpha), proving that there are two positive constants beta=beta(alpha), gamma such that beta(k to the 1/3 power) is less than or equal to the kth c(alpha) which is less than or equal to gamma(k to the 1/3 power.

van der Ploeg, Frederick

PD August, 1991. **TI** Unanticipated Inflation and Government Finance: The Case for an Independent Common Central Bank. **AA** CentER, Tilburg University. **SR** CEPR Discussion Paper: 562; Centre for Economic Policy Research, 6 Duke of York Street, London SW1Y 6LA, United Kingdom. **PG** 48. **PR** Pounds 3.00 or $5.00. **JE** 311, 320, 430. **KW** Eurofed. Monetary Union. Credibility. Inflation. Tax/Seigniorage. Policy Coordination.
AB This paper discuss the merits of an independent "EuroFed" within the context of a tax/seigniorage smoothing model for a monetary union. There is an incentive to use a surprise inflation tax to wipe out the real value of government debt and wage contracts because this allows a cut in distortionary taxes and boost employment and private consumption. If dependent central banks can pre-commit, there is no case for an independent EuroFed as this leads to a sub-optimal government revenue mix. If only an independent EuroFed can guarantee sufficient discipline, however, a case can be made for it over and above a monetary union with a non-cooperative or cooperative central bank. This case is stronger when the aversion to inflation is high, when the outstanding stock of nominal government debt is high, when the underground economy is insignificant and when there is little indexation. Even if all contracts are indexed, there is an incentive to create unanticipated inflation if money demand depends on expected inflation. If private agents are rational in their forecasts of inflation, however, government spending is financed through temporary bouts of taxation and inflation, and given that all contracts are indexed, no case for an independent central bank can be made. Competition between central banks of a monetary union induces excessive inflation, because each bank fails to internalize the externalities associated with appropriating too much seigniorage from the common central bank.

Vegh, Carlos A.

TI Money Supply and Interest Rate Policy in a New-Keynesian Framework. **AU** Calvo, Guillermo A.; Vegh, Carlos A.

TI Exchange-Rate-Based Stabilization under Imperfect Credibility. **AU** Calvo, Guillermo A.; Vegh, Carlos A.

Vetter, Henrik

PD 1990. **TI** Wage Determination in a Model of Sequential Bargaining. **AA** University of Aarhus. **SR** Aarhus Institute of Economics Memo: 1990-27; Institute of Economics, University of Aarhus, Building 350, Universitetsparken, DK-8000 Aarhus C, DENMARK. **PG** 56. **PR** no charge. **JE** D82, E24, J23, J31, J51. **KW** Wages. Bargaining. Asymmetric Information. Employment. Wage Determination.
AB In this paper we are concerned with the determination of wage and employment under asymmetric information. We analyze what happens to the level of employment if the union dictates a wage and if it is assumed that firms compared to the union are more precisely informed about the value of the product of the firm. We argue that the level of employment will serve as a signal and that in an equilibrium fully revealing all information employment is lower when compared to the case of full information.

PD September 1990. **TI** Wage Setting, Investment and Asymmetric Information. **AA** University of Aarhus. **SR** Aarhus Institute of Economics Memo: 1990-28; Institute of Economics, University of Aarhus, Building 350, Universitetsparken, DK-8000 Aarhus C, DENMARK. **PG** 43. **PR** no charge. **JE** D82, D33, J31. **KW** Asymmetric Information. Wage Determination. Investment. Employment.
AB In this paper we imagine that wage determination is subject to some restrictions arising from the presence of asymmetric information. The level of investments and employment is compared to those found in the case of symmetric information. In a command equilibrium, asymmetric information dictates a lower level of investment and employment compared to the case of symmetric information. In a decentralized economy, the conclusion with respect to employment can be withheld whereas investment may be higher or lower compared to the case of symmetric information.

PD February 1991. **TI** Insider Power as a Cause of Excessive Employment. **AU** Vetter, Henrik; Andersen, Torben M. **AA** University of Aarhus. **SR** Aarhus Institute of Economics Memo: 1991-6; Institute of Economics, University of Aarhus, Building 350, Universitetsparken, DK-8000 Aarhus C, DENMARK. **PG** 8. **PR** no charge. **JE** J42, J31, J23. **KW** Insider Outsider Theory. Employment. Turnover. Rents.
AB This paper analyzes the ability of insiders to extract rents associated with exogenous turnover costs in a dynamic context. It is shown that the underbidding of insiders makes

these possibilities very limited, and that the insider-outsider model, moreover, implies an employment level which is at least as high as in the corresponding static competitive model.

TI Insiders Meet a Non-Myopic Firm. **AU** Andersen, Torben M.; Vetter, Henrik.

PD May 1991. **TI** Wages under Asymmetric Information: Underemployment as a Signaling Device. **AA** University of Aarhus. **SR** Aarhus Institute of Economics Memo: 1991-17; Institute of Economics, University of Aarhus, Building 350, Universitetsparken, DK-8000 Aarhus C, DENMARK. **PG** 20. **PR** no charge. **JE** J41, J51, J23, D82. **KW** Bargaining. Asymmetric Information. Unions. Employment. Signaling.
AB This paper combines the monopoly union and the right to manage model with the assumption of asymmetric information and illustrates the need for employment as a signaling device. Firms are better informed than their employees about the state of nature and the equilibrium must support full revelation of the state of nature. Employment is unambiguously lower with asymmetric information when compared to the case of symmetric information except in the most favorable state of nature. Finally, it is demonstrated that when firms and employees engage in risk sharing, underemployment obtains in all states of nature except for the worst.

Villanacci, Antonio
TI Real Indeterminacy of Equilibria in a Sunspot Economy with Inside Money. **AU** Suda, Shinichi; Tallon, Jean-Marc; Villanacci, Antonio.

TI A Note on Generalizing the Model of Competitive Equilibrium with Restricted Participation on Financial Markets. **AU** Cass, David; Siconolfi, Paolo; Villanacci, Antonio.

Villanueva, Delano
TI Macroeconomic Policies and Long-Term Growth: A Conceptual and Empirical Review. **AU** Khan, Mohsin S.; Villanueva, Delano.

von Weizsacker, Robert K.
PD July 1990. **TI** Population Aging and Social Security: A Politico-Economic Model of State Pension Financing. **AA** University of Bonn. **SR** Universitat Bonn Sonderforschungsbereich 303 - Discussion Paper: A-279; Sonderforschungsbereich 303 an der Universitat Bonn, Adenauerallee 24-42, D-5300 Bonn 1, GERMANY. **PG** 24. **PR** no charge. **JE** H55, H24, D72. **KW** Income Taxes. Social Security. Elderly. Pensions. Political Economy. Voting.
AB The present paper attempts to provide a positive, politico-economic explanation of actual social security policies. A theoretical framework is devised which integrates individual utility maximization and governmental maximization of expected political support. Individual support depends on how net economic benefit from a pay-as-you-go financed state pension scheme is translated into a probability of voting for the government. The relation between net economic positions, public policy parameters, and voting probabilities is made explicit by referring to the logit model of qualitative choice. The analysis is set in an overlapping generations framework. Optimal state pension policies are characterized, relating such diverse factors as population aging, political power distribution, social solidarity, and income taxation.

PD February 1991. **TI** Staatsverschuldung und Demokratie. **AA** University of Bonn. **SR** Universitat Bonn Sonderforschungsbereich 303 - Discussion Paper: A-329; Sonderforschungsbereich 303 an der Universitat Bonn, Adenauerallee 24-42, D-5300 Bonn 1, GERMANY. **PG** 18. **PR** no charge. **JE** E62, H60. **KW** Fiscal Deficits. Government Debt. Public Finance. Budget Deficits. Democracy.
AB Paper in German.

Voss, Graham M.
PD May 1991. **TI** Monetary Integration, Uncertainty and the Role of Monetary Policy. **AA** Queen's University. **SR** Queen's Institute for Economic Research Discussion Paper: 813; Department of Economics, Queen's University, Kingston, Ontario, CANADA K7L 3N6. **PG** 36. **PR** $3.00 Canada; $3.00 U.S.; $3.50 foreign. **JE** F36, F41, R13, F14. **KW** Currency Union. Monetary Integration. Regional Economies.
AB This research considers the positive theory of monetary integration in a general equilibrium monetary model of the world economy. The analysis demonstrates that, in the face of uncertainty and incomplete asset markets, participation in a monetary union may be welfare improving since it facilitates state-dependent resource transfers between regional economies. Such resource transfers are used to optimally reduce the variance of consumption for risk averse agents. This potential for improving welfare depends not only on the agents' risk aversion but on the interrelationship of the regional economies: contrary to Mundell (1961), economically diverse regions may be well suited to a common currency.

Wadhwani, Sushil
TI Productivity Growth in U.K. Companies 1975-86. **AU** Nickell, Stephen; Wadhwani, Sushil; Wall, Martin.

Walker, James M.
TI Theory and Misbehavior in First Price Auctions: Comment. **AU** Cox, James C.; Smith, Vernon L.; Walker, James M.

Walker, Mark
TI On Recursive Learning in Noncooperative Games. **AU** Moreno, Diego; Walker, Mark.

TI Convergence Theorems for a Class of Recursive Stochastic Algorithms. **AU** Moreno, Diego; Walker, Mark.

Wall, Martin
TI Productivity Growth in U.K. Companies 1975-86. **AU** Nickell, Stephen; Wadhwani, Sushil; Wall, Martin.

Wang, Jianxin
TI The Electronic Order Book and Automated Trade Execution in Futures Markets. **AU** Domowitz, Ian; Wang, Jianxin.

Wang, Ruqu
PD May 1991. **TI** Auctions Versus Posted-Price Selling. **AA** Queen's University:. **SR** Queen's Institute for Economic Research Discussion Paper: 812; Department of Economics, Queen's University, Kingston, Ontario, CANADA K7L 3N6. **PG** 33. **PR** $3.00 Canada; $3.00 U.S.; $3.50

foreign. **JE** D44, D42, D41. **KW** Auction Theory. Auctions. Prices.

AB Two most popular selling methods -- posted-price selling and auctions -- are compared in this paper. We confirm the common belief that auctions are most often used when the distribution of the object's value is widely dispersed. The choice of selling methods usually depends on the costs of displaying, storing and auctioning. In the absence of auctioning costs, auctioning at every instant is optimal. The "dispersion" of a distribution is then formally defined and developed. Using the definition of dispersion, we prove that auctions becomes preferable when a potential buyer's valuation becomes more dispersed. Finally, the optimization of a social planner is studied and we find that the monopoly seller's price can be higher or lower than that of the social optimum.

Ware, Roger

TI Public Firms as Regulatory and Auditing Instruments. **AU** Garvie, Devon A.; Ware, Roger.

Wei, Shang-Jin

PD August 1991. **TI** Anticipations of Foreign Exchange Volatility and Bid-Ask Spreads. **AA** Board of Governors of the Federal Reserve System. **SR** Board of Governors of the Federal Reserve System International Finance Discussion Papers: 409; Division of International Finance, Board of Governors of the Federal Reserve System, Washington, DC 20551. **PG** 43. **PR** no charge. **JE** F31, G15. **KW** Exchange Rate. International Markets. Volatility.

AB The paper studies the effect of the market's perceived exchange rate volatility on bid-ask spreads. The anticipated volatility is extracted from currency options data. An increase in the perceived volatility is found to widen bid-ask spreads. The direction of the effect is consistent with an option model of the spread, but the magnitude is smaller. An increase in trading volume of spot exchange rates also widens the spread. The omission of the trading volume, however, does not bias the estimate of the effect of the volatility on the spreads. Although the spread-volatility relation implied by the option model of the spread is close to linear, some form of nonlinearity can still be detected from the data.

Weiss, Thomas

PD February 1991. **TI** Long Term Changes in U.S. Agricultural Output per Worker, 1800 to 1900. **AA** University of Kansas. **SR** National Bureau of Economic Research Working Paper Series on Historical Factors and Long-Run Growth: 23; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PG** 31. **PR** $2.00. **JE** N51, Q12. **KW** Agriculture. Productivity. Labor Force.

AB The nineteenth century was a period of expansion and transformation of American agriculture. While much is known about the process, the exact pace and timing of agricultural productivity change is still unresolved. The traditional view is one of continued progress in which output and productivity increased steadily, accelerating over the period. The Civil War is seen as a convenient turning point, and perhaps an episode of greater consequence. More recent work has raised doubts about this picture of steady and accelerating success. This paper presents new estimates of agricultural output per worker, based on revised statistics of the farm labor force and farm gross product.

Welsh, D. J. A.

TI Tutte Polynomials Computable in Polynomial Time. **AU** Oxley, J. G.; Welsh, D. J. A.

PD April 1991. **TI** The Complexity of Knots. **AA** University of Bonn. **SR** Universitat Bonn Sonderforschungsbereich 303 - Discussion Paper: 90679-OR; Sonderforschungsbereich 303 an der Universitat Bonn Adenauerallee 24-42, D5300 Bonn 1, GERMANY. **PG** 16. **PR** no charge. **JE** C60. **KW** Knots. Topology.

AB The title of this paper is taken from Tait's seminal work on knots. Although it is unlikely that Tait was thinking of complexity in the sense that it is used here, the underlying problems encountered by Tait are basically the same questions that we shall be considering. Two fundamental problems of knot theory are: Is a knotted curve really knotted? Are two knotted curves really the same knot?.

TI Combinatorics in Statistical Physics. **AU** Godsil, C. D.; Grotschel, M.; Welsh, D. J. A.

White, Lawrence J.

PD 1991. **TI** On the Measurement of Bank Capital. **AA** New York University. **SR** New York University Salomon Brothers Center Working Paper: S-91-23; 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** 29. **PR** $5.00. **JE** G21, G32, M41. **KW** Banking. Capital Stock. Accounting.

AB It is now widely recognized that capital is an important component of the safety-and-soundness regulation of banks. Capital, when measured appropriately, provides important protections for depositors (or for the deposit insurer). More capital generally means more protection. The measurement of capital is not a trivial issue, however. Indeed, the proper measure of capital is at the heart of the issue of capital adequacy for banks. If the measurement framework is faulty, there is far less assurance that any claimed amount of capital is sufficient to provide the needed protection to depositors. This paper will argue that the concept of capital that best protects depositors is one that relies on current market value measurements of a bank's assets, liabilities, and off-balance sheet commitments.

Whitehouse, Edward

TI Occupational and Industrial Earnings over Time: The Use of Pooled Cross-Section Data. **AU** Disney, Richard; Whitehouse, Edward.

Wickham, Peter

TI The Demand for Money in Developing Countries: Assessing the Role of Financial Innovation. **AU** Arrau, Patricio; De Gregorio, Jose; Reinhart, Carmen M.; Wickham, Peter.

Williams, Mark D.

PD May 1991. **TI** Merger and Regulatory Incentives. **AA** Federal Trade Commission. **SR** Federal Trade Commission Bureau of Economics Working Paper: 189; Bureau of Economics, Federal Trade Commission, 6th and Pennsylvania Ave. NW, Washington, D.C. 20580. **PG** 13. **PR** no charge. **JE** L51, L41, L43. G34, L52. **KW** Regulations. Mergers. Output. Industrial Organization.

Capital.
AB This paper examines the incentives for two-product price-regulated firms to cross-subsidize when there are no economies or diseconomies of scope. If the two products are substitutes and each product faces a separate regulatory constraint, after merger the product with the looser initial constraint is favored relative to the regulated, single-product firm. Under a joint constraint, the more tightly regulated product is emphasized. This paper takes as an example a merger between two firms featuring Averch-Johnson behavior. While, in general, merger encourages reductions in joint output, with separate regulatory constraints, the merged firm produces relatively more of the good with a smaller initial degree of overcapitalization.

Winckler, Georg

PD March 1991. **TI** Exchange Rate Appreciation as a Signal of a New Policy Stance. **AA** University of Vienna and International Monetary Fund. **SR** International Monetary Fund Working Paper: WP/91/32; International Monetary Fund, Washington, DC 20431. **PG** 15. **PR** not available. **JE** E52, E42. **KW** Exchange Rate. Inflation. Monetary Policy.
AB It is shown in a game theoretic framework that it may pay off to signal a "conservative" policy stance -- giving a high priority to price stability -- by appreciating the exchange rate. Such an appreciation demonstrates to domestic producers and more precisely to the trade union that the new policy stance is meant to be serious. An example explores the welfare implication for the policy-maker and the trade union. The empirical background of the paper refers to the monetary policy in Europe. It explains the occurrence of exchange rate commitments to the deutschemark, with appreciated rates.

Winter, Eyal

TI Order Independent Equilibrium Payoffs. **AU** Moldovanu, Benny; Winter, Eyal.

Wong, Chorng-Huey

PD April 1991. **TI** Market-Based Systems of Monetary Control in Developing Countries: Operating Procedures and Related Issues. **AA** International Monetary Fund. **SR** International Monetary Fund Working Paper: WP/91/40; International Monetary Fund, Washington, DC 20431. **PG** 23. **PR** not available. **JE** E41, E42, E44, E52. **KW** Developing Countries. Money Demand. Financial Reform. Monetary Policy.
AB This paper reviews issues in the development of a market-based system of monetary control in developing countries. It focuses on the appropriate sequencing of financial reform that would facilitate the transition toward a market-based system and measures required to strengthen the effectiveness of market-based operations. The paper also assesses the effects of financial reform on the demand for money function and discusses the implications for policy formulation and implementation.

Wooders, Myrna Holtz

PD February 1991. **TI** Necessary and Sufficient Conditions for the Approximate Core Property. **AA** University of Toronto. **SR** Universitat Bonn Sonderforschungsbereich 303 - Discussion Paper: B-178; Sonderforschungsbereich 303 an der Universitat Bonn, Adenauerallee 24-42, D-5300 Bonn 1, GERMANY. **PG** 15. **PR** no charge. **JE** C70, D51. **KW** Substitution Property. Nonempty Cores. Core Property.
AB Bondareva and Shapley showed that games have nonempty cores if and only if the games are balanced. In this paper, we show necessary and sufficient conditions for large games, ones with many players, to have nonempty approximate cores. We use a framework where, for any game with many players, most players have many substitutes, called the substitution property. We introduce the property of continuity of average payoffs, which is simply that small groups of players can have only small effects on per capita payoffs of large groups. It is shown that all sufficiently large games have nonempty approximate cores if and only if the continuity of average payoffs condition is satisfied. The result is proven by showing that continuity of average payoffs is necessary and sufficient for efficacy of small groups, or, in other words, inessentiality of large groups, another condition equivalent to the approximate core property.

PD February 1991. **TI** The Efficaciousness of Small Groups and the Approximate Core Property in Games without Side Payments: Some First Results. **AA** University of Toronto. **SR** Universitat Bonn Sonderforschungsbereich 303 - Discussion Paper: B-179; Sonderforschungsbereich 303 an der Universitat Bonn Adenauerallee 24-42, D5300 Bonn 1, GERMANY. **PG** 29. **PR** no charge. **JE** D51, D58, C70. **KW** Coalitions. Core Property. Substitution Property.
AB Small groups are efficacious, or, in other words, large groups are inessential, if almost all gains to group or coalition formation can be realized by groups bounded in absolute size. The approximate core property is that all sufficiently large games have nonempty approximate cores. The substitution property is that in all sufficiently large games, most players have many substitutes. In Wooders (1991) in the context of an environment satisfying the substitution property it was shown that large games satisfy inessentiality of large groups if and only if they have the approximate core property. In this paper we begin a similar study for games without sidepayments, NTU games.

Wooton, Ian

TI Market Integration, Competition and Welfare. **AU** Haaland, Jan I.; Wooton, Ian.

Wu, S. Y.

TI Capital Market Equilibrium in the Entrepreneur-Centered Economy. **AU** Qin, Cheng-Zhong; Wu, S. Y.

Wurzel, Eckhard

PD December 1989. **TI** Staggered Entry and Unemployment Durations - An Application to German Data. **AA** University of Bonn. **SR** Universitat Bonn Sonderforschungsbereich 303 - Discussion Paper: B-131; Sonderforschungsbereich 303 an der Universitat Bonn, Adenauerallee 24-42, D-5300 Bonn 1, GERMANY. **PG** 16. **PR** no charge. **JE** J64. **KW** Unemployment Duration. Unemployment. Germany. Demographics.
AB In this paper we consider the impact of individual economic and demographic characteristics on the distribution of single spell unemployment durations in West Germany utilizing data from the German Social Economic Panel (Sozio-okonomisches Panel, SEP). Simultaneously we provide some evidence on the robustness of parameter estimates with respect

to uncertainty about inflow dates given that only entry intervals are known instead of the precise start dates of the spells. The approach is fully parametric; as population distributions the Weibull and the Log logistic distributions are considered.

Yu, Minli

PD December 1990. **TI** Resolvable Tree Design. **AA** University of Bonn. **SR** Universitat Bonn Sonderforschungsbereich 303 - Discussion Paper: 90673-OR; Sonderforschungsbereich 303 an der Universitat Bonn, Adenauerallee 24-42, D-5300 Bonn 1, GERMANY. **PG** 8. **PR** no charge. **JE** C60. **KW** Graph Theory. Complete Graphs.

AB We present a construction of tree factorizations of complete graphs and it also can be used to obtain oriented tree factorizations of K(n)* (complete symmetric directed graph). Particularly, we obtain the following result: K(n)* has a P(k)-factorization if n=0 (mod k) and n=1 (mod k-1) when k is not equal to 3, 5, where P(k) is a directed path on k vertices.

Yue, Minyi

PD October 1990. **TI** A Simple Proof of the Inequality FFD(L) Less than or Equal to (11/9)OPT(L)+1, for all L for the FFD Bin-Packing Algorithm. **AA** Academia Sinica, Beijing. **SR** Universitat Bonn Sonderforschungsbereich 303 - Discussion Paper: 90665-OR; Sonderforschungsbereich 303 an der Universitat Bonn, Adenauerallee 24-42, D-5300 Bonn 1, GERMANY. **PG** 16. **PR** no charge. **JE** C63, C61, C60. **KW** Algorithm. Bin Packing Problem.

AB The first fit decreasing (FFD) heuristic algorithm is one of the most famous and most studied methods for an approximative solution of the bin-packing problem. For a list L, let OPT(L) denote the minimal number of bins into which L can be packed, and let FFD(L) denote the number of bins used by FFD. Johnson showed that for every list L, FFD(L) is less than or equal to 11/9 OPT(L) + 4. His proof required more than 100 pages. Later, Baker gave a much shorter and simpler proof for FFD(L) less than or equal to 11/9 OPT(L) + 3. His proof required 22 pages. In this paper, we give a proof for FFD(L) is less than or equal to 11/9 OPT(L) + 1. The proof is much simpler than the previous ones.

Zajac, Edward E.

PD July 1991. **TI** In Praise of the Local Money Metric. **AA** University of Arizona. **SR** University of Arizona Economics Working Paper: 91-17; Department of Economics, Bldg #23, University of Arizona, Tucson, AZ 85721. **PG** 12. **PR** $2 Canada and U.S.; $3 Overseas by air. **JE** D11. **KW** Consumer Theory. Utility Theory. Consumer Surplus.

AB This paper coins the term "local money metric" to mean the form of the money metric utility function which results when the money metric's base and reference prices are set equal. Then, the marginal utility of income becomes unity, thereby reducing notational clutter. This fact, together with the money yardstick property of the money metric utility function, facilitates economic reasoning. Two examples, one for direct and the other for indirect money metric utility, illustrate the claim. In addition, the local money metric gives a trivial justification for the use of consumer's and consumers' surplus as a utility maximand.

PD July 1991. **TI** The Impact of the Form of New Technology on the Entry-Exit Game: A Preliminary Historical Exploration. **AA** University of Arizona. **SR** University of Arizona Economics Working Paper: 91-9; Department of Economics, Bldg #23, University of Arizona, Tucson, AZ 85721. **PG** 27. **PR** $2 Canada and U.S.; $3 Overseas by air. **JE** L96, L51, O33. **KW** Regulation. Technological Change. Telecommunications.

AB In order to develop an adequate economic history of American telecommunications, one needs to understand the combination of the old Bell System, the "independent" (non-Bell) telephone companies, and their regulators as an institution. A key to the longevity and survival of this institution, called Old Regulated Bell (ORB), was its ability to control entry into and exit from the telecommunications industry. This paper analyzes entry-exit using North's "rules, norms, enforcement" paradigm. It presents ten micro case studies of technological developments during the period from the mid-fifties to the beginning of 1982, when ORB was dismanteled. These studies illustrate an assertion: the ease or difficulty with which ORB adopted a new technology and either allowed or prevented entry/exit depended critically on the interplay of the technology with ORB's "rules, norms, enforcement" structure.

Zapater, Inigo

PD March 1991. **TI** Generalized Communication between Rational Agents. **AA** Brown University. **SR** Brown University Department of Economics Working Paper: 91-10; Department of Economics, Brown University, Providence, Rhode Island 02912. **PG** 26. **PR** not available. **JE** C71. **KW** Communication. Credibility. Rationalizability. Signaling Games.

AB In this paper we extend Rabin's theory of communication. First, we relax the conditions that define the credibility of a message. Second, we have to solve some coordination problems that arise with the new formulation. These problems also occur in Rabin's model, leading there to some technical problems. Next, we further relax the credibility conditions obtaining a weaker form of communication: messages are not sent with probability one. We finally analyze how far can we go relaxing the credibility conditions.

Zilcha, Itzhak

PD July 1991. **TI** Optimal Hedging by Firms with Multiple Sources of Risky Income. **AU** Zilcha, Itzhak; Broll, Udo. **AA** Zilcha: Tel Aviv University. Broll: Konstanz University. **SR** Tel Aviv Sackler Institute of Economic Studies Working Paper: 4-91; Department of Economics, Tel Aviv University, Ramat Aviv 69978, Tel Aviv, ISRAEL. **PG** 11. **PR** no charge. **JE** G13, D41, D81. **KW** Hedging. Prices. Futures Market. Commodities.

AB We study the hedging behavior of competitive risk averse firms producing under price uncertainty and owning other sources of risky income as well. We show that the well-known "Separation property" holds when a futures market for the commodity produced is available. However, an unbiased futures market does not imply full hedging by which the firm can avoid price risk altogether.