

## ABSTRACTS OF WORKING PAPERS IN ECONOMICS

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### **Agenor, Pierre-Richard**

**PD** June 1994. **TI** The Behavior of Real Interest Rates in Exchange-Rate Based Stabilization Programs. **AA** International Monetary Fund. **SR** International Monetary Fund Working Paper: WP/94/75; International Monetary Fund, 700 19th Street, Washington, DC 20431. **PG** 23. **PR** not available. **JE** E43, F32, F41. **KW** Interest Rates. Foreign Exchange. Stabilization. Taxation. **AB** This paper examines the behavior of real interest rates in exchange-rate based stabilization programs. The analysis is based on a model with imperfect capital mobility and optimizing agents. A permanent reduction in the devaluation rate is first shown to have an ambiguous effect on real interest rates on impact. The analysis is then extended to consider a stabilization program characterized by an initial reduction in the rate of devaluation of the nominal exchange rate, and the announcement of a future increase in income taxes. The impact effect on real interest rates is shown to depend upon the degree of credibility of the announcement. Real interest rates may fall if agents do not believe that taxes will be raised, and rise if the future tax reform is sufficiently credible.

**PD** July 1994. **TI** Macroeconomic Management With Informal Financial Markets. **AU** Agenor, Pierre-Richard; Haque, Nadeem U. **AA** International Monetary Fund. **SR** International Monetary Fund Papers on Policy Analysis and Assessment: PPAA/94/12; International Monetary Fund, Washington, DC 20431. **PG** 23. **PR** not available. **JE** F31, F41. **KW** Informal Markets. Monetary Policy. Foreign Exchange.

**AB** Informal credit and foreign currency markets are a widespread phenomenon in developing countries. This paper begins by reviewing the scope and nature of these markets, and the channels through which they operate. It then examines their implications for macroeconomic management, particularly in the areas of monetary policy and official exchange rate adjustment, interest rate liberalization, and the unification of foreign exchange markets. The analysis illustrates the importance of accounting for the presence of informal financial markets in the design of stabilization programs.

**PD** September 1994. **TI** Technological Change, Relative Wages, and Unemployment. **AU** Agenor, Pierre-Richard; Aizenman, Joshua. **AA** Agenor: International Monetary Fund. Aizenman: Dartmouth College. **SR** International Monetary Fund Working Paper: WP/94/111; International Monetary Fund, 700 19th Street, Washington, DC 20431. **PG** 20. **PR** not available. **JE** E24, J31, J42. **KW** Unemployment. Wage Level. Labor Market.

**AB** This paper examines the effect of skill-biased technological change on the structure of wages, the

composition of employment and the level of unemployment in a two-sector economy with a heterogeneous work force. Efficiency wage considerations and minimum wage legislation lead to labor market segmentation. A technological shock that reduces the demand for unskilled labor and raises the demand for skilled labor in the primary, high-wage sector is shown to increase the relative wage of skilled workers and reduce aggregate employment as well as the employment level of unskilled workers in that sector. The net effect of the shock on the employment level of skilled workers is mitigated by the existence of efficiency factors.

### **Agnello, Richard J.**

**PD** August 1994. **TI** Price Determinants and Investment Returns for Art: Evidence From Paintings' Auctions. **AA** University of Delaware. **SR** University of Delaware Department of Economics Working Paper: 94-3; College of Business and Economics, Department of Economics, University of Delaware, Newark, Delaware 19716-2720. **PG** 17. **PR** not available. **JE** G11, G12, D44. **KW** Art. Auctions. Asset Returns. Risk.

**AB** Although the popular perception is that the return to investment in art compares favorably with traditional financial alternatives, few serious economic studies support these claims. In spite of different time frames and empirical methodologies, the studies generally conclude that purchasing art not only results in a lower return than traditional alternatives such as stocks and bonds, but is also riskier and thus a decidedly inferior investment choice. In this paper, price determinants as well as investment returns for paintings are studied using auction data from 1971 to 1990. The sample includes several thousand auction transactions of paintings by 44 American artists born before World War II whose works either command high prices and/or are large in number so as to exhibit high turnover frequency at auction. Although not without difficulties, auctions provide a large stream of public information on painting transactions including the "hammer" price of the painting and a set of potentially relevant information about characteristics of the painting and the auction. Attributes investigated include the artist, title of the work, size and medium of the work, and whether signed or dated by the artist. Information about the auction includes the date of sale, the auction house, lot number, and whether the work was illustrated in a sales catalog. Using a time series and cross section framework we find both the rate of return and financial risk associated with paintings to be more in line with traditional alternatives. In addition, variations in painting prices across a wide variety of artists seem somewhat predictable using the information set provided by the auction records.

**Ahn, Byung Chan**

PD July 1994. TI Monetary Policy and the Determination of the Interest Rate and Exchange Rate in a Small Open Economy With Increasing Capital Mobility. AA Federal Reserve Bank of St. Louis and Bank of Korea. SR Federal Reserve Bank of St. Louis Working Paper: 94-024A; Research and Public Information Division, Federal Reserve Bank of St. Louis, P.O. Box 442, St. Louis, MO 63166. PG 19. PR no charge. JE E43, E52, F32. KW Capital Movement. Foreign Exchange. Interest Rates. Monetary Policy.

AB This paper presents a general model of the determination of the interest rate and the exchange rate which is relevant for a small economy with any degree of capital mobility. The model is tested by using the quarterly data of Korea and Singapore. The empirical results show that in the Korean case changes in money supply affect the interest rate, but do not affect the exchange rate, while in the case of Singapore the domestic interest rate is determined by the foreign interest rate and the expected change in the exchange rate, as well as by changes in the money supply; changes in the money supply also influence the exchange rate. The results imply that the progress of capital liberalization in a small country will alter the transmission mechanism from reliance on the interest rate channel alone to effects arising through both the interest rate and the exchange rate.

**Aizenman, Joshua**

TI Technological Change, Relative Wages, and Unemployment. AU Agenor, Pierre-Richard; Aizenman, Joshua.

**Akbarian, Dara**

TI On Risk, Rational Expectations, and Efficient Asset Markets. AU Stevens, Guy V. G.; Akbarian, Dara.

**Alesina, Alberto**

PD August 1994. TI The Political Economy of Budget Deficits. AU Alesina, Alberto; Perotti, Roberto. AA International Monetary Fund. SR International Monetary Fund Working Paper: WP/94/85; International Monetary Fund, 700 19th Street, Washington, DC 20431. PG 28. PR not available. JE H61, H62, H63. KW Public Debt. Budget Deficit. Fiscal Policy.

AB This paper provides a critical survey of the literature on politico-institutional determinants of the government budget. We organize our discussion around two questions: Why did certain OECD countries, but not others, accumulate large public debts? Why did these fiscal imbalances appear in the last 20 years rather than before? We begin by discussing the "tax smoothing" model and conclude that this approach alone cannot provide complete answers to these questions. We will then proceed to a discussion of political economy models, which we organize in six groups: (i) models based upon opportunistic policymakers and naive voters with "fiscal illusion;" (ii) models of intergenerational redistributions; (iii) models of debt as a strategic variable, linking the current government with the next one; (iv) models of coalition governments; (v) models of geographically dispersed interests; (vi) models emphasizing the effects of budgetary institutions. We conclude by briefly discussing policy implications.

**Allen, Donald S.**

PD October 1994. TI Why Does Inventory Investment

Fluctuate So Much During Contractions? AA Federal Reserve Bank of St. Louis. SR Federal Reserve Bank of St. Louis Working Paper: 94-029A; Research and Public Information Division, Federal Reserve Bank of St. Louis, P.O. Box 442, St. Louis, MO 63166. PG 22. PR no charge. JE E22, E23, E32. KW Simulation. Inventory Investment. Production Smoothing. Aggregation. Business Cycles.

AB Inventory investment appears to have a significant impact on the movement of aggregate output during business cycle contractions. Recent empirical evidence has raised doubts about the often used assumption of a buffer-stock/production-smoothing motivation for inventory. Work by Blinder and Maccini suggests that the use of an (S,s), or intermittent adjustment decision rule, better explains the stylized facts of the dynamics of inventory investment. This has led to the focus on the (S,s) as an alternative to production-smoothing. I assume that some agents use the (S,s) adjustment rule while others attempt to smooth production in the face of convex costs and uncertain demand. I simulate the interaction of heterogeneous agents (representing manufacturing, wholesale, and retail agents) with different inventory decision rules to demonstrate that the stylized facts can be explained by a disaggregated model with vertical coupling between agents. The simulations find opposite aggregation bias effects for (S,s) agents than for production smoothing agents and/or temporally decreased the relative variability of production/ordering to sales for (S,s) agents while it increased the relative variability for production smoothing agents. The simulations also revealed synchronization by (S,s) agents when subjected to aggregate shocks. This may explain some of the asymmetrical characteristics of the business cycle.

**Altonji, Joseph G.**

PD June 1994. TI Small Sample Bias in GMM Estimation of Covariance Structures. AU Altonji, Joseph G.; Segal, Lewis M. AA Altonji: Northwestern University and National Bureau of Economic Research. Segal: Federal Reserve Bank of Chicago. SR National Bureau of Economic Research Technical Paper: 156; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge MA 02138. PG not available. PR \$5.00. JE C13, C14, C51, C52. KW Generalized Method of Moments. Covariance. Bias. Estimation.

AB We examine the small sample properties of the GMM estimator for models of covariance structures, where the technique is often referred to as the optimal minimum distance (OMD) estimator. We present a variety of Monte Carlo experiments based on simulated data and on the data used by Abowd and Card (1987, 1990) in an examination of the covariance structure of hours and earnings changes. Our main finding is that OMD is seriously biased in small samples for many distributions and in relatively large samples for poorly behaved distributions. The bias is almost always downward in absolute value. It arises because sampling errors in the second moments are correlated with sampling errors in the weighting matrix used by OMD. Furthermore, OMD usually has a larger root mean square error and median absolute error than equally weighted minimum distance (EWMD). We also propose and investigate an alternative estimator, which we call independently weighted optimal minimum distance (IWOMD). IWOMD is a split sample estimator using separate groups of observations to estimate the moments and the weights. IWOMD has identical large sample properties to the OMD estimator but

is unbiased regardless of sample size. However, the Monte Carlo evidence indicates that IWOMD is usually dominated by EWMD.

#### **Ammer, John**

PD October 1994. TI Are Banks Market Timers or Market Makers? Explaining Foreign Exchange Trading Profits. AU Ammer, John; Brunner, Allan D. AA Board of Governors of the Federal Reserve System. SR Board of Governors of the Federal Reserve System International Finance Discussion Paper: 484; Board of Governors of the Federal Reserve System, Division of International Finance, Washington, DC 20551. PG 23. PR no charge. JE F31, G14, G21. KW Foreign Exchange Markets. Intermediation. Efficient Markets Hypothesis.

AB We analyze the foreign exchange trading earnings of large U.S. commercial banks over the past several years. In particular, we use several approaches to try to determine to what extent these profits can be attributed either to position-taking by banks or to the provision of intermediation services to bank customers. The results can be summarized as follows. First, banks appear to generate a substantial portion of their foreign exchange earnings from making markets in conventional spot and forward foreign exchange contracts. In addition, some indirect evidence supports anecdotal reports that intermediation in volatility-related products (e.g., options contracts) has been a significantly profitable activity. Finally, on average, positions in currencies do not appear to contribute to profits. Tests applied to monthly and daily data on banks' portfolio positions suggest that banks cannot accurately forecast changes in exchange rates, and that these currency positions account for only a small fraction (if any) of the banks' foreign exchange earnings.

#### **Anayiotos, George C.**

PD July 1994. TI Information Asymmetries in Developing Country Financing. AA International Monetary Fund. SR International Monetary Fund Working Paper: WP/94/79; International Monetary Fund, 700 19th Street, Washington, DC 20431. PG 16. PR not available. JE D81, F33, F34, G15. KW Asymmetric Information. International Markets. Credit Risks.

AB This paper assesses the impact of information asymmetries on developing country financing and considers alternative techniques to reduce the adverse implications of such asymmetries. Following an introduction, Section II examines in general terms the role of information in financial markets and analyzes the incentive and risk sharing properties of alternative financial contracts. Information asymmetries which are present in domestic finance are more prevalent in international finance, in particular in developing country financing. Section II reviews measures aiming to resolve information asymmetries. Borrowing and creditor country regulations and policies, as well as innovative contractual agreements help to resolve a range of issues related to information asymmetries. However, despite their contribution, residual problems remain unresolved. The international financial institutions, and in particular the International Monetary Fund, have an important role to play in alleviating information asymmetries.

#### **Anderson, Erin**

PD August 1994. TI Inducing Multi-Line Sales people to

Adopt House Brands. AU Anderson, Erin; Robertson, Thomas S. AA Anderson: INSEAD. Robertson: London Business School. SR INSEAD Working Papers: 94/42/MKT; INSEAD, Boulevard de Constance, Fontainebleau, 77305 Cedex, FRANCE. PG 43. PR not available. JE D89, L14. KW Brands. House Brands.

AB Multi-line salespeople sell the product lines of multiple companies and are typically employees of distributors or of independent sales agencies. Many multi-line providers have recently moved to build a distinct marketing identity by adding a "house brand" to their salespeople's existing product portfolio and have attempted to induce their salespeople to adopt the house brand so that house-branded products constitute a substantial fraction of every salesperson's sales and income. Yet, a property of house brands is that they have the potential to limit a salesperson's job mobility, as well as build customer loyalty to the multi-line provider rather than the individual salesperson. Using both archival data and direct questions, we model the extent to which salespeople adopt house brands, as well as the salesperson's perception that selling house brands can pose contractual hazards and the salesperson's dependence upon the employer. Results indicate that adoption of house brands is most pronounced for salespeople who are habitually successful, who are more dependent on the firm, or who receive high levels of company training. In contrast, salespeople who resist house brands perceive that selling these products threatens their customer bond, have greatest experience as a salesperson, and are more oriented to external than internal sources of information. Implications of the findings in terms of developing ways for multi-line providers to manage independent-minded salespeople are discussed.

#### **Anderson, Ronald W.**

PD July 1994. TI Design and Valuation of Debt Contracts. AU Anderson, Ronald W.; Sundaresan, Suresh. AA Anderson: Universite Catholique de Louvain. Sundaresan: Columbia University. SR Columbia PaineWebber Working Paper Series in Money, Economics and Finance: PW-94-12; PaineWebber Series, 6N Uris Hall, Columbia University, New York, NY 10027. PG 26. PR \$5.00 academics and non-profit institutions; \$6.00 corporations (add \$1.00 outside U.S., Canada and Puerto Rico). JE G12, G32, G33. KW Contingent Claims. Financial Distress. Security Design.

AB This paper studies the design and valuation of debt contracts in a general dynamic setting under uncertainty. By incorporating some insights of the recent corporate finance literature into a valuation framework, we obtain a model which seems promising for the empirical study of pricing of risky debt claims and which gives insights into the question of why certain contractual provisions are selected in some situations but not in others. The basic framework is an extensive form game determined by the terms of a debt contract and applicable bankruptcy laws. Debtholder and equityholders behave non-cooperatively. The allocation of cashflows and the firm's reorganization boundary are determined endogenously in the perfect equilibrium in this game. Under conditions of complete information we show how to value the claims of the firm in a general dynamic setting using known techniques. Given a method of valuation we are then able to address the question of the design of optimal multiperiod debt contracts under uncertainty. The possibility of strategic debt service in our model is shown to result in significantly higher default premia

(much closer to what we observe in real world) at even small liquidation costs. When our model is used to study the design of debt contracts, we observe that higher cash payout ratio tends to imply (in general) higher coupons and more sinking fund provisions. In our model, deviations from absolute priority and forced liquidations occur along the equilibrium path.

#### Ando, Kazutoshi

PD April 1994. TI On Structures of Bisubmodular Polyhedra. AU Ando, Kazutoshi; Fujishige, Satoru. AA Ando: University of Tsukuba. Fujishige: University of Bonn. SR Universitaet Bonn Sonderforschungsbereich 303 - Discussion Paper: 94821; Sonderforschungsbereich 303 an der Universitaet Bonn, Adenauerallee 24-42, D-5300 Bonn 1, DEUTSCHLAND. PG 25. PR no charge. JE C44. KW Bisubmodular Polyhedra. Bisubmodular Functions. Greedy Algorithm. Signed Posets.

AB A bisubmodular polyhedron is defined in terms of a so-called bisubmodular function on a family of ordered pairs of disjoint subsets of a finite set. We examine the structures of bisubmodular polyhedra in terms of signed poset and exchangeability graph. We give characterizations of boundedness and pointedness of bisubmodular polyhedra and also give a characterization of extreme points together with an  $O(n^2)$  algorithm for discerning whether a given point is an extreme point, where  $n$  is the cardinality of the underlying set. The algorithm also determines the signed poset structure associated with the given point if it is an extreme point. We examine the greedy algorithm over possibly unbounded bisubmodular polyhedra and show an optimality condition in terms of exchangeability graph. We also give characterizations of faces and their dimensions and provide the adjacency relation of extreme points in terms of the Hasse diagrams of the associated signed posets. Moreover, we investigate the connectivity and the decomposition into connected components.

PD June 1994. TI The Minimum-Weight Ideal Problem for Signed Posets. AU Ando, Kazutoshi; Fujishige, Satoru; Nemoto, Toshio. AA Ando and Nemoto: University of Tsukuba. Fujishige: University of Bonn. SR Universitaet Bonn Sonderforschungsbereich 303 - Discussion Paper: 94828; Sonderforschungsbereich 303 an der Universitaet Bonn, Adenauerallee 24-42, D-5300 Bonn 1, DEUTSCHLAND. PG 8. PR no charge. JE C44. KW Minimum Weight Ideals. Signed Posets. Combinatorial Optimization.

AB The concept of signed poset has recently been introduced by V. Reiner as a generalization of ordinary poset (partially ordered set). We consider the problem of finding a minimum-weight ideal of a signed poset and show that the problem can be reduced to a problem of finding a minimum-weight ideal of an appropriately defined ordinary poset and hence to a minimum-cut problem. We also consider the case when the weight of an ideal is defined in terms of two weight functions. The problem is also reduced to a minimum-cut problem. We reveal the relationship between the minimum-weight ideal problem and a certain bisubmodular function minimization problem.

#### Andrews, Donald W. K.

PD June 1994. TI Hypothesis Testing With a Restricted Parameter Space. AA Yale University. SR Yale Cowles Foundation Discussion Paper: 1060R; Yale University, Cowles Foundation for Research in Economics, 30 Hillhouse Ave., Box 2125 Yale Station, New Haven, CT 06520. PG 42. PR no

charge. JE C12, C13. KW Admissibility. Hypothesis Test. Nonlinear Models. One-Sided Test.

AB This paper considers hypothesis tests when the parameter space is restricted under the alternative hypothesis. Multivariate one-sided tests are a leading example. Optimal tests, called directed tests, are derived using a weighted average power criterion. The likelihood ratio test is shown to be admissible and to maximize power against alternatives that are arbitrarily distant from the null hypothesis. Exact results are established first for Gaussian linear regression models with known variance. Asymptotic analogues are then established for dynamic nonlinear models. Simulation is used to compare the tests discussed in the paper. The infinite Durbin-Watson directed test is found to perform best in an overall sense for multivariate one-sided alternatives. The infinite Durbin-Watson and LR tests are found to perform likewise for mixed one- and two-sided alternatives.

PD September 1994. TI Testing for Serial Correlation Against an ARMA(1,1) Process. AU Andrews, Donald W. K.; Ploberger, Werner. AA Andrews: Yale University. Ploberger: Technische Universitaet Wien. SR Yale Cowles Foundation Discussion Paper: 1077; Yale University, Cowles Foundation for Research in Economics, 30 Hillhouse Ave., Box 2125 Yale Station, New Haven, CT 06520. PG 29. PR no charge. JE C12, C13, C52. KW Autoregressive. Exponential Average Test. Lagrange Multiplier Test. Moving Average.

AB This paper is concerned with tests for serial correlation in time series and in the errors of regression models. In particular, the nonstandard problem of testing for white noise against ARMA(1,1) alternatives is considered. Lagrange multiplier (LM) and exponential average LM tests are introduced and are shown to be asymptotically admissible for ARMA(1,1) alternatives. In addition, they are shown to be consistent against all (weakly stationary strong mixing) non-white noise alternatives. Simulation results compare the tests to several tests in the literature. These results show that the infinite Exp-LM test has very good all-around power properties.

#### Angehrn, Albert A.

PD 1994. TI Case-Based Decision Support. AU Angehrn, Albert A.; Dutta, Soumitra. AA INSEAD. SR INSEAD Working Papers: 94/48/TM; INSEAD, Boulevard de Constance, Fontainebleau, 77305 Cedex, FRANCE. PG 22. PR not available. JE Q50, C61, Q21, Q31, Q41. KW Case-Based Reasoning. Decision Support Systems.

AB This paper presents and illustrates an approach for effectively integrating case-based reasoning (CBR) techniques into systems supporting human decision making. CBR techniques are encapsulated in an autonomous agent which is able to assume the role of an adviser or of a story teller in order to facilitate and stimulate the decision-making process (by using stored cases of prior decision/problem solutions) and to incrementally enhance its knowledge by observing and storing current problem solving behaviors of decision makers. The result is a highly interactive, conversational, human-computer decision making environment. The experimental domain of multi-criteria decision making has been chosen for illustrating case-based decision support in a widely studied and relevant application area.

**Angrist, Joshua D.**

PD January 1994. TI Split Sample Instrumental Variables. AU Angrist, Joshua D.; Krueger, Alan B. AA Angrist: Hebrew University and National Bureau of Economic Research. Krueger: Princeton University and National Bureau of Economic Research. SR National Bureau of Economic Research Technical Paper: 150; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge MA 02138. PG not available. PR \$5.00. JE C13, C31, C32, C51, J31. KW Instrumental Variables. Asymptotic Properties. Bias.

AB Instrumental Variables (IV) estimates tend to be biased in the same direction as Ordinary Least Squares (OLS) in finite samples if the instruments are weak. To address this problem we propose a new IV estimator which we call Split Sample Instrumental Variables (SSIV). SSIV works as follows: we randomly split the sample in half, and use one half of the sample to estimate parameters of the first-stage equation. We then use these estimated first-stage parameters to construct fitted values and second-stage parameter estimates using data from the other half sample. SSIV is biased toward zero, rather than toward the plim of the OLS estimate. However, an unbiased estimate of the attenuation bias of SSIV can be calculated. We use this estimate of the attenuation bias to derive an estimator that is asymptotically unbiased as the number of instruments tends to infinity, holding the number of observations per instrument fixed. We label this new estimator Unbiased Split Sample Instrumental Variables (USSIV). We apply SSIV and USSIV to the data used by Angrist and Krueger (1991) to estimate the payoff to education.

**Arnold, Michael A.**

PD November 1994. TI Search, Bargaining, and Optimal Asking Prices. AA University of Delaware. SR University of Delaware Department of Economics Working Paper: 94-13; College of Business and Economics, Department of Economics, University of Delaware, Newark, Delaware 19716-2720. PG 19. PR not available. JE C72, D43, D83. KW Search. Asking Price. Subgame Perfect Equilibrium.

AB An asking price attracts potential buyers to inspect an asset for sale, and it acts as an initial offer in the bargaining game played by the buyer and seller. A bargaining model in which the buyer's valuation of the asset is learned after the seller makes his initial offer (the asking price) is incorporated into a search framework in which the asking price determines the rate at which potential customers arrive at the seller's location. The seller's optimal asking price and reservation price are characterized, and the existence of a subgame-perfect equilibrium asking price/reservation price strategy is established. Sufficient conditions for the existence of a unique, optimal strategy also are presented. Finally, conditions under which the asking price is an effective signal of the seller's discount rate are described.

**Arnott, Richard**

PD April 1994. TI When Are Anonymous Congestion Charges Consistent With Marginal Cost Pricing? AU Arnott, Richard; Kraus, Marvin. AA Arnott: Boston College and National Bureau of Economic Research. Kraus: Boston College. SR National Bureau of Economic Research Technical Paper: 154; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge MA 02138. PG not available. PR \$5.00. JE D11, D43, D62, L13.

**KW Congestible Facilities. Pricing. Marginal Cost.**

AB There are constraints on pricing congestible facilities. First, if heterogeneous users are observationally indistinguishable, then congestion charges must be anonymous. Second, the time variation of congestion charges may be constrained. Do these constraints undermine the feasibility of marginal cost pricing, and hence the applicability of the first-best theory of congestible facilities? We show that if heterogeneous users behave identically when using the congestible facility and if the time variation of congestion charges is unconstrained, then marginal cost pricing is feasible with anonymous congestion charges. If, however, the time variation of congestion charges is constrained, optimal pricing with anonymous congestion charges entails Ramsey pricing.

**Aronsson, Thomas**

PD January 1994. TI The Influence of a Nonlinear Grant-in-Aid on Local Public Expenditures in Sweden. AU Aronsson, Thomas; Wikstrom, Magnus. AA University of Umea. SR University College London Discussion Paper: 94-02; Department of Economics, University College London, Gower Street, London WC1E 6BT, ENGLAND. PG 22. PR 3.00 pounds; checks payable to Department of Economics, University College London. JE C51, D12, H72, H77. KW Public Expenditures. Grant-in-Aid. Voter Behavior. Local Government.

AB This paper estimates a model of local public expenditures using data for the Swedish communities. A major purpose is to examine what influence grant-in-aid from central to local government will have on the local expenditures. The demand for local expenditures is derived from the median voter's utility maximization problem, and the nonlinearities created by the grant-in-aid appears to have a nonnegligible effect on the local public expenditures.

PD January 1994. TI A Simple Test for Weak Separability Between Male and Female Labor Supply. AA University of Umea. SR University College London Discussion Paper: 94-03; Department of Economics, University College London, Gower Street, London WC1E 6BT, ENGLAND. PG 17. PR 3.00 pounds; checks payable to Department of Economics, University College London. JE J16, J22, J31. KW Labor Supply. Weak Separability. Conditioned Demand.

AB Most previous studies of the labor supply of married women define the wife's labor supply conditional on the husband's income, which neglects several potentially important aspects of simultaneous optimization. In the context of the neoclassical household model, this would be equivalent to assuming that the husband's hours of work are weakly separable both from the wife's hours of work and from household consumption. The paper develops a simple method to test this hypothesis. By applying the method on Swedish data, the hypothesis of weak separability is rejected. I also find that the assumption of weak separability will substantially bias predictions of the labor supply behavior of certain groups of women.

**Asilis, Carlos M.**

PD July 1994. TI On Corruption and Capital Accumulation. AU Asilis, Carlos M.; Juan-Ramon, V. Hugo. AA International Monetary Fund. SR International Monetary Fund Working Paper: WP/94/86; International Monetary Fund, 700 19th Street, Washington, DC 20431.

PG 19. PR not available. JE O12, O17, Q28. KW Economic Development. Stabilization. Corruption. AB Reforming economies have typically placed little attention on the impact of illegal activities on the success of reform/stabilization packages and optimal policy design. This paper aims at developing a framework in which to assess an economy's response to alternative stabilization/reform packages as a function of the scope of corruption activities. The framework developed herein is a basic one in which only the most fundamental questions (such as the effects of anti-corruption government policies on output and welfare) are examined. The more interesting questions of the optimal design of stabilization and economic reform policies remain to be addressed in future extensions of the model. The framework also accommodates political-economy analysis, and is able to explain why, even when able to eliminate corruption activity altogether, governments may choose not to do so. Our framework differentiates between developing and developed economies according to the income share accruing to capital, as is common in the literature. In equilibrium, the effect of anti-corruption penalties on the economy's capital stock is greater in developing countries; in particular, we find that the elasticity of the steady state average per capita stock of capital with respect to increases in anti-corruption penalties is increasing in the income share accruing to capital. The model also shows that reductions in public good output, as a fraction of the economy's total expenditure, lead to larger welfare decreases when in the presence of corruption.

#### Athey, Susan

PD October 1994. TI Mentoring, Discrimination and Diversity in Organizations. AU Athey, Susan; Avery, Christopher; Zemsky, Peter B. AA Athey: Stanford University. Avery: Harvard University. Zemsky: INSEAD. SR Stanford Graduate School of Business Research Paper: 1317; Jackson Library Graduate School of Business, Stanford University, Stanford, CA 94305-5016. PG 34. PR no charge. JE D23, J71, L20, D92. KW Diversity in Organizations. Biased Promotions. Discrimination.

AB This paper studies the economic forces which shape the diversity of an organization over time. We introduce a direct connection between a worker's attributes (such as gender or cultural background) and her productivity in a given firm. Specifically, we consider the training and promotion process of a single firm in a world of people of two generic "types," where people also vary in their talent (independent of type). Know-how is transferred from managers to new employees via mentoring, which is more effective when managers are mentoring someone of the same type. Then the firm considers a worker's type as well as her productivity in each promotion decision, because the diversity of current management affects the quality of the pool of subsequent management candidates. We find that firms will optimally bias promotion decisions by type, and we analyze the forces which lead this bias to favor or oppose diversity in management. Finally, we discuss how bias and other factors affect the dynamics of diversity.

PD October 1994. TI The Allocation of Decisions in Organizations. AU Athey, Susan; Gans, Joshua; Schaefer, Scott; Stern, Scott. AA Athey, Schaefer and Stern: Stanford University. Gans: University of New South Wales. SR Stanford Graduate School of Business Research Paper: 1322; Jackson Library Graduate School of Business, Stanford University, Stanford, CA 94305-5016. PG 31. PR no

charge. JE D23, M12. KW Discretion. Management by Exception. Training. Complementarities. Organizations. Decision-Making.

AB This paper is motivated by an often-observed but understudied phenomenon of the modern business enterprise, management by exception. The term describes the relative infrequency of management interference in the lower tiers of an organizational hierarchy. We study how an organization allocates decisions among agents when the efficient choice of which agent is responsible for decision-making depends on the state of the world. Two distinct factors shape the optimal scope of decision-making authority: intrinsic differences and induced differences. Intrinsic differences arise because, due to considerations of coordination, information, or incentives, one agent may have a relative advantage at making the decision in a given state. Induced differences arise because the overall quality of an agent's decision-making falls with the number of states over which he or she has discretion. Management by exception as a phenomenon may arise when scarce managerial resources are conserved by restricting the scope of managerial authority. We examine the effects of shifts in the probability distribution over states, focusing on shifts which increase the relative frequency of states where high-level decision-makers have an intrinsic advantage. We show that in response to such a shift, which might arise if the organization's environment becomes more complex, the optimal scope of low-level decision-making increases. Finally, we analyze complementarities between discretion and other organizational design variables. This paper represents a first attempt at elucidating a formal theory of state-contingent decision-making within organizations.

PD November 1994. TI Product and Process Flexibility: Implications for Organizational Design. AU Athey, Susan; Schmutzler, Armin. AA Athey: Stanford University. Schmutzler: Heidelberg University. SR Stanford Graduate School of Business Research Paper: 1328; Jackson Library Graduate School of Business, Stanford University, Stanford, CA 94305-5016. PG 27. PR no charge. JE D23, D24, D42, L23. KW Flexibility. Product Design. Organizational Design. Innovation. Monopoly.

AB In this paper, we study the interaction between a firm's internal organizational design, which we treat as an irreversible technology choice, and its external environment. We focus on two internal organizational design variables: product design flexibility and process flexibility. Along a given dimension, flexibility lowers the future cost of adjusting production decisions in response to changes in the external environment. Product design adjustments affect the demand for the firm's products, while process adjustments lower the firm's production costs. Our analysis reveals that these two types of adjustments are complementary in terms of increasing the firm's net revenue in a given period. However, we argue that in terms of the initial organizational design costs, there are tradeoffs between product design flexibility and process flexibility. The complementarities between product design and process adjustment compete with the tradeoffs between product design and process flexibility. We find that, due to these competing effects, an increase in the expected future returns to adjustment in a given dimension does not always lead to an increase in the optimal choice of flexibility in that dimension. Thus, our paper draws substantively different conclusions than those which would be reached from a model with only one dimension of flexibility, or from a model that neglected the interactions which arise in

terms of either (i) the costs of internal organizational design decisions, or (ii) the benefits to adjusting production decisions.

#### Avery, Christopher

TI Mentoring, Discrimination and Diversity in Organizations. AU Athey, Susan; Avery, Christopher; Zemsky, Peter B.

#### Axtell, Robert

TI Economics, Thermodynamics and Process Analysis. AU Ayres, Robert U.; Axtell, Robert.

#### Ayres, Leslie W.

TI Chemical Industry Wastes; A Materials Balance Analysis. AU Ayres, Robert U.; Ayres, Leslie W.

#### Ayres, Robert U.

PD July 1994. TI Chemical Industry Wastes; A Materials Balance Analysis. AU Ayres, Robert U.; Ayres, Leslie W. AA INSEAD. SR INSEAD Working Papers: 94/32/EPS; INSEAD, Boulevard de Constance, Fontainebleau, 77305 Cedex, FRANCE. PG 24. PR not available. JE Q20. KW Environment, Pollution.

AB The paper is a systematic derivation of aggregate production wastes for the U.S. chemicals industries, SIC 28 (1975-1988). To facilitate this derivation we have classified chemicals within this sector by key element(s) from which they are derived. In principle, each is thought of as initiating a transformation process, converting material (and energy) inputs to outputs. Both inputs and outputs can be estimated, with reasonable accuracy, from well-established government statistics. Unlike most other sectors of the economy, however, knowledge of the transformation processes themselves is also needed. Combining both types of information, it is possible to account for most chemical uses and wastes by means of the materials-balance methodology. We compare the results of this "bottom up" approach with other estimates of waste residuals. In several cases, significant discrepancies have been identified. One major virtue of our approach is to clearly distinguish between dry and wet wastes. Another virtue of the indirect approach is to estimate waste streams from dissipative and/or consumptive uses, especially of heavy metals and halogens. The conventional measurement-based approach is relatively unsatisfactory in dealing with non-point sources. The data we have used is sufficiently standard so that it should be possible for a government agency to compile and present these data on a routine basis. Where there are major differences with other sources (including direct measures) the underlying data probably need revision or supplement.

PD July 1994. TI Life Cycle Analysis: A Critique. AA INSEAD. SR INSEAD Working Papers: 94/33/EPS; INSEAD, Boulevard de Constance, Fontainebleau, 77305 Cedex, FRANCE. PG 28. PR not available. JE Q29. KW Environment, Life Cycle.

AB Life Cycle Analysis (LCA) is an increasingly important tool for environmental policy, and even for industry. Analysts are also increasingly interested in forecasting future materials/energy fluxes on regional and global scales, as a function of various economic growth and regulatory scenarios. A fundamental tenet of LCA is that every material product must eventually become a waste. To choose the "greener" of two products or policies it is necessary to take into account its

environmental impacts from "cradle to grave". This includes not only indirect inputs to the production process, and associated wastes and emissions, but also the future (downstream) fate of a product. The first stage in the analysis is quantitative comparisons of materials/energy flows and transformations. This can be an extremely valuable exercise, if done carefully. However, the data required to accomplish this first step is not normally available from published sources. Moreover, so-called "confidential" data is unverifiable (by definition) and may well be erroneous. In the absence of a formal materials-balance accounting system, such errors may not be detected. A key thesis of this paper is that process data can, in many cases, be synthesized, using models based on the laws of thermodynamics and chemistry. While synthetic but possible data may not fully reflect an actual situation, it is far superior to "impossible" data. Most of the recent literature on LCA focusses on the second stage of the analysis, namely the selection and evaluation of different, non-comparable environmental impacts ("chalk vs. cheese"). This problem is, indeed, very difficult-and may well be impossible to solve convincingly-even at the conceptual level. However, the only approach that can make progress is one that utilizes monetization to the limits of its applicability, rather than one that seeks to by-pass (or "re-invent") economics. Nevertheless, the evaluation problem is second in priority, for the simple reason that LCA has utility even if the evaluation technique is imperfect. On the other hand, LCA has no (or even negative) utility if the underlying physical data is wrong.

PD July 1994. TI Economics, Thermodynamics and Process Analysis. AU Ayres, Robert U.; Axtell, Robert. AA Ayres: INSEAD. Axtell: Brookings Institute. SR INSEAD Working Papers: 94/35/EPS; INSEAD, Boulevard de Constance, Fontainebleau, 77305 Cedex, FRANCE. PG 17. PR not available. JE C67, C68, D58, Q29, Q49. KW Environmental Policy, Resource Forecasting.

AB Economists are increasingly interested in forecasting future costs and benefits of policies for dealing with materials/energy fluxes, polluting emissions and environmental impacts on various scales, from sectoral to global. Computable general equilibrium (CGE) models are currently popular because they project demand and industrial structure into the future, along an equilibrium path. But these are applicable only to the extent that structural changes occur in or near equilibrium, independent of radical technological (or social) change. The alternative tool for analysing economic implications of scenario assumptions is to use Leontief-type input-output (IO) models. IO models are unable to endogenize structural shifts (changing IO coefficients). However, this can be a virtue when considering radical rather than incremental shifts. Postulated IO tables can be used independently to check the internal consistency of scenarios. Or they can be used to generate scenarios by linking them to econometric "macro-drivers". Either GCE or I-O models can be explicitly developed to trace the indirect material/energy requirements, as well as waste emissions, associated with an assumed pattern of final demand. Explicit process analysis can be integrated, in principle, with either CGE or IO models. This hybrid scheme provides a natural means of satisfying physical constraints, especially the first and second laws of thermodynamics. Process analysis is really the only available tool for constructing plausible alternative future IO tables, and generating materials/energy and waste emissions coefficients.

Explicit process analysis also helps avoid several characteristic problems of either CGE or IO models, viz. (1) aggregation errors (2) inability to handle arbitrary combinations of co-product and co-input relationships and (3) inability to reflect certain non-linearities such as internal feedback loops.

**PD** July 1994. **TI** Waste Potential Entropy: The Ultimate Ecotoxic? **AU** Ayres, Robert U.; Martinas, Katalin. **AA** INSEAD. **SR** INSEAD Working Papers: 94/36/WPS; INSEAD, Boulevard de Constance, Fontainebleau, 77305 Cedex, FRANCE. **PG** 22. **PR** not available. **JE** Q20, Q30, Q40. **KW** Entropy. Information. Pollution.

**AB** We explore some economic implications of three simple ideas: (1) that all resource flows and all economic goods and services can be characterized as stocks or flows of "useful" embodied information, (2) that the economy is an information processor, in the sense that large quantities of low grade "physical" information are converted, by intention, into smaller quantities of higher grade "morphological" and "symbolic" information and (3) that the most general pollutant is the physical information in the waste. Production, in the economic system, is the conversion of low economic value information-content raw materials into higher economic value information-content goods and services. We point out in this paper that entropy generated in the creation of economic goods or services is not a priori damaging to the environment. Entropy, as such, is not pollution, although it is generated by the consumption of non-renewable natural resources. What is dangerous to the environment is the emission of material fluxes (i.e. waste streams) that are not in thermodynamic equilibrium with the environmental systems into which they are emitted. Temperature or pressure differentials are unimportant. By far the most dangerous aspect of disequilibrium is differential physico-chemical composition, between the waste stream and the environmental medium into which it is emitted. Such differentials constitute potential entropy increase. Eco-toxicity is, in effect, the potential of such entropic differentials for driving uncontrolled processes that threatens the stability of organisms, ecosystems and the environment as a whole. The most vulnerable environmental media are the atmosphere and the terrestrial biosphere. Thus the highest priorities for environmental policy must be to protect these two systems, above all, from unwarranted anthropogenic disturbance. A general criterion for environmental sustainability is proposed. The implications for economic and environmental policy are discussed briefly.

### Bacchetta, Philippe

**PD** October 1994. **TI** Net Capital Flows Under Exchange Rate and Price Volatility. **AU** Bacchetta, Philippe; van Wincoop, Eric. **AA** Bacchetta: Studienzentrum, Gerzensee and Universite de Lausanne. van Wincoop: Boston University and Innocenzo Gasparini Institute for Economic Research. **SR** Universite de Lausanne Cahiers de Recherches Economiques: 9414; Departement d'Econometrie et d'Economie Politique, Univerite de Lausanne, BFSH1 - Dorigny, CH-1015 Lausanne, SWITZERLAND. **PG** 35. **PR** no charge. **JE** F32, F41. **KW** Exchange Rate Uncertainty. Net Capital Flows. Saving-Investment Correlations.

**AB** This paper presents a two-country, two-period monetary general equilibrium model with price and exchange rate uncertainty. This nominal uncertainty creates a bias towards domestic bonds. An increase in nominal uncertainty dampens

the current account response to any shock we consider. Equivalently, it reduces the size of net international capital flows and increases the comovement between national saving and investment. The extent of this dampening is stronger the larger the degree of risk aversion, the rate of intertemporal substitution and the interest elasticity of investment and a further increase in private saving. Finally, the comovement between private saving and investment may be weakened by the presence of nominal uncertainty. All of these results are consistent with a set of stylized facts involving the relationship between public and private saving and investment.

### Balkenborg, Dieter

**PD** January 1994. **TI** An Experiment on Forward- Versus Backward Induction. **AA** University of Bonn and The Hebrew University of Jerusalem. **SR** Universitaet Bonn Sonderforschungsbereich 303 - Discussion Paper: B- 268; Sonderforschungsbereich 303 an der Universitaet Bonn, Adenauerallee 24-42, D-5300 Bonn 1, DEUTSCHLAND. **PG** 35. **PR** no charge. **JE** C92. **KW** Games in Extensive Form. Forward Induction. Subgame Consistency. Focal Points.

**AB** The results of an experiment are reported where subjects played within a repeated random matching environment a simple game in extensive form. In this game backward induction based on the focal-point outcome in a subgame yields an outcome different from the one that would be deduced using forward induction arguments. In each of the thirteen independent sessions we conducted more than 80% of all cases resulted in the backward induction outcome.

### Ballali, Daudi

**TI** Economic Trends in Africa: The Economic Performance of Sub-Saharan African Countries. **AU** Dhonte, Pierre; Ballali, Daudi; Terrier, Gilbert; Cosse, Stephane.

### Banks, James

**PD** January 1994. **TI** Quadratic Engel Curves, Indirect Tax Reform and Welfare Measurement. **AU** Banks, James; Blundell, Richard; Lewbel, Arthur. **AA** Banks: Institute of Fiscal Studies. Blundell: Institute of Fiscal Studies and University College London. Lewbel: Brandeis University. **SR** University College London Discussion Paper: 94-04; Department of Economics, University College London, Gower Street, London WC1E 6BT, ENGLAND. **PG** 28. **PR** 3.00 pounds; checks payable to Department of Economics, University College London. **JE** C31, D12, D61. **KW** Consumer Demand. Kernel Regression. Welfare Analysis.

**AB** This paper presents a model of consumer demand that is both consistent with the observed expenditure patterns of individual consumers in a long time series of expenditures surveys and is able to provide a detailed welfare analysis of shifts in relative prices. Our interest in generating a new model specification is motivated by a nonparametric analysis of consumers' expenditure patterns that suggests Engel curves require quadratic terms in log expenditure. While popular models of demand like the Translog or Almost Ideal demand systems do allow flexible price responses within a theoretically coherent structure, they have expenditure share Engel curves that are linear in the logarithm of total expenditure. We derive the complete class of integrable quadratic logarithmic expenditure share systems. A specification from this class is



estimated on a large pooled data set of UK households. The appropriate choice of the Engel curve term is shown to have important welfare implications.

### Barro, Robert J.

PD October 1994. TI Quality Improvements in Models of Growth. AU Barro, Robert J.; Sala-i-Martin, Xavier. AA Barro: Harvard University. Sala-i-Martin: Yale University. SR Yale Economic Growth Center Discussion Paper: 715; Economic Growth Center, Yale University, Box 208269, Yale Station, New Haven CT 06520. PG 43. PR \$2.00 + postage. JE O31, O32, O33, O41. KW Quality Ladders. Technological Progress. Endogenous Growth. Innovation.

AB Technological progress takes the form of improvements in quality of an array of intermediate inputs to production. In an equilibrium that is standard in the literature, all research is carried out by outsiders, and success means that the outsider replaces the incumbent as the industry leader. The equilibrium research intensity involves three considerations: leading-edge goods are priced above the competitive level, innovators value the extraction of monopoly rents from predecessors, and innovators regard their successes as temporary. We show that, if industry leaders have lower costs of research, then the leaders will do all the research in equilibrium. However, if the cost advantage is not too large, then the equilibrium research intensity and growth rate depend on the existence of the competitive fringe and take on the same values as in the standard solution. We discuss the departures from Pareto optimality and analyze the determination of the economy's rate of return and growth rate.

### Barzelay, Michael

PD September 1994. TI Revamping Public Management: Integrating Comparative Research. AU Barzelay, Michael; Hassel, Bryan. AA Barzelay: Harvard University. Hassel: Malcolm Wiener Center for Social Policy. SR Harvard John F. Kennedy School of Government Faculty Research Working Paper Series: R94-27; John F. Kennedy School of Government, Harvard University, 79 John F. Kennedy Street, Cambridge, MA 02138. PG 30. PR no charge. JE H11, H50. KW Public Policy. Comparative Analysis.

AB In recent years, governments cooperated in making the comparative study of public administration uncharacteristically interesting. The object of interest is the widespread revamping of practices of governing and managing the operational institutions of the core public sector. With changes occurring in so many countries simultaneously, comparative analysis has the potential to yield substantial intellectual and practical benefits. This article surveys the published comparative literature on revamping public management, identifies salient examples of various lines of research, indicates how further progress can be made along each line, and synthesizes the results of work to date. Though a body of comparative literature exists, it plainly lacks the connective tissue needed to yield an understanding of revamping policies. What is needed, the authors argue, is convergence on a common analytical framework for characterizing the revamping phenomenon. As a first step toward this end, the authors nominate a policy design framework, which they employ to critique and synthesize three of the most interesting comparative works produced to date in this field.

### Basu, Susanto

PD September 1994. TI Constant Returns and Small Markups in U.S. Manufacturing. AU Basu, Susanto; Fernald, John G. AA Basu: University of Michigan. Fernald: Board of Governors of the Federal Reserve System. SR Board of Governors of the Federal Reserve System International Finance Discussion Paper: 483; Board of Governors of the Federal Reserve System, Division of International Finance, Washington, DC 20551. PG 13. PR no charge. JE C43, D24, E32. KW Returns to Scale. Productivity. Value Added. Imperfect Competition.

AB We estimate that returns to scale are close to constant in two-digit gross output data. Value-added data appear instead to give significant increasing returns. We show why, with imperfect competition, value-added estimates are, in general, meaningless. We use data on intermediate inputs to correct the value-added estimates, and find that returns to scale again appear close to constant. Given that profits are small, our results imply that markups of price over marginal cost are also small.

### Bayoumi, Tamim

PD June 1994. TI Relative Prices and Economic Adjustment in the U.S. and the EU: A Real Story About European Monetary Union. AU Bayoumi, Tamim; Thomas, Alun. AA International Monetary Fund. SR International Monetary Fund Working Paper: WP/94/65; International Monetary Fund, 700 19th Street, Washington, DC 20431. PG 14. PR not available. JE F15, F33, R11. KW Relative Prices. Common Currency. EMU.

AB Structural vector autoregressions are used to analyze the relationship between real output and relative prices within the EU and the United States. Relative price variability appears to be more important for adjustment within the EU than the United States, reflecting the lower integration of goods and factor markets. In the absence of higher market integration, the lower relative price variability implied by the introduction of a single currency in the EU could well cause significant economic disruption.

PD July 1994. TI Restraining Yourself: Fiscal Rules and Stabilization. AU Bayoumi, Tamim; Eichengreen, Barry. AA Bayoumi: International Monetary Fund. Eichengreen: University of California, Berkeley. SR International Monetary Fund Working Paper: WP/94/82; International Monetary Fund, 700 19th Street, Washington, DC 20431. PG 13. PR not available. JE E62, H61, H74. KW Fiscal Stabilization. Fiscal Restraints. National Budget.

AB State budgets in the United States played a significant macroeconomic role in the 1970's and 1980's, and the level of cyclical responsiveness was affected by the severity of statutory and constitutional fiscal restraints. Moving from no fiscal restraints to the most stringent restraints lowered the fiscal offset to income fluctuations by around 40 percent. Simulations indicate that a reduction in aggregate fiscal stabilizers of this size could lead to a significant increase in the variance of aggregate output.

PD August 1994. TI Aging Population and Canadian Public Pension Plans. AA International Monetary Fund. SR International Monetary Fund Working Paper: WP/94/89; International Monetary Fund, 700 19th Street, Washington, DC 20431. PG 12. PR not available. JE H55, J14. KW Public Pension. Social Security. Canada.

**AB** Canadian public pension plans are run on a "pay-as-you-go" basis. As the baby boom ages, contribution rates for the two main plans are projected to rise significantly, from their current level of around 5 percent of eligible earnings to over 13 percent by 2030. An alternative is to set contribution rates at their underlying long-term levels. Such a policy would imply a significant rise in current contribution rates, to 10-10 1/2 percent of eligible earnings, but would allow the system to cope with the retirement of the baby boom generation without recourse to borrowing or significant increases in contribution rates.

**PD** October 1994. **TI** The Stability of the Gold Standard and the Evolution of the International Monetary System. **AU** Bayoumi, Tamim; Eichengreen, Barry. **AA** Bayoumi: International Monetary Fund. Eichengreen: University of California, Berkeley. **SR** University of California, Berkeley, Center for International and Development Economics Research Working Paper: C94-040; IBER, 156 Barrows Hall, University of California, Berkeley, CA 94720. **PG** 21. **PR** no charge. **JE** F31, F33, N20. **KW** Exchange Rates. Gold Standard. International Monetary System.

**AB** This paper examines some popular explanations for the smooth operation of the classical gold standard. We find that the rapid adjustment of economies to underlying disturbances played an important role in stabilizing output and employment under the gold standard system, but no evidence that this success also reflected relatively small underlying disturbances. Finally, the paper also suggests an explanation for the evolution of the international monetary system based on growing nominal inertia over time.

### Beltratti, Andrea

**PD** December 1993. **TI** The Green Golden Rule and Sustainable Growth. **AU** Beltratti, Andrea; Chichilnisky, Graciela; Heal, Geoffrey. **AA** Beltratti: University of Turin. Chichilnisky and Heal: Columbia University. **SR** Columbia PaineWebber Working Paper Series in Money, Economics and Finance: PW-94-06; PaineWebber Series, 6N Uris Hall, Columbia University, New York, NY 10027. **PG** 13. **PR** \$5.00 academics and non-profit institutions; \$6.00 corporations (add \$1.00 outside U.S., Canada and Puerto Rico). **JE** D90, Q20. **KW** Sustainable. Resources. Environment. Growth.

**AB** We introduce a growth model with an environmental asset as a source of utility and an input to consumption and production. This is used to study the consequences of a ranking of intertemporal paths, due to Chichilnisky, which places weight on their very long run or limiting characteristics as well as on their characteristics over any finite period. This criterion shows more intertemporal symmetry or egalitarianism than the discounted utilitarian approach, which clearly emphasizes the immediate future at the expense of the long run. In this respect it captures the concerns of those who argue for sustainability and for a heightened sense of responsibility to the future. Their long-run characteristics of path optimal by this criterion are a mixture of those of utilitarian paths and the "green golden rule" (the configuration which maximizes long-run sustainable utility from consumption and environment).

### Bennett, Adam G. G.

**PD** September 1994. **TI** Currency Boards: Issues and Experience. **AA** International Monetary Fund. **SR** International Monetary Fund Papers on Policy Analysis

and Assessment: PPAA/94/18; International Monetary Fund, Washington, DC 20431. **PG** 25. **PR** not available. **JE** F31, E52, E58. **KW** Foreign Exchange. Currency Boards. Stabilization.

**AB** This paper discusses some of the issues that concern the operation of currency boards, by comparison to conventional exchange rate pegs, and looks at the experiences of three examples of this type of arrangement: Argentina (from 1991), Hong Kong (from 1983), and Estonia (from 1992). In all three cases, the implementation of currency boards or equivalent arrangements played a significant role in their successful stabilization programs. Currency boards derive their strength from the fact that they severely constrain the policy maker's room for maneuver, by comparison to conventional pegs. They generally require an even stricter and less forgiving attitude to bank failure, wage and price rigidities, and other disturbances than do exchange rate pegs in general.

### Berger, Allen N.

**PD** November 1994. **TI** The Efficiency Cost of Market Power in the Banking Industry: A Test of the 'Quiet Life' and Related Hypotheses. **AU** Berger, Allen N.; Hannan, Timothy H. **AA** Berger: Board of Governors of the Federal Reserve System and University of Pennsylvania. Hannan: Board of Governors of the Federal Reserve System. **SR** Board of Governors of the Federal Reserve System Finance and Economics Discussion Series: 94-36; Board of Governors of the Federal Reserve System, C/O Sharon Kozicki, Mail Stop 61, Federal Reserve Board, Washington, DC 20551. **PG** 30. **PR** no charge. **JE** G21, G28, L11, L41, L89, G34. **KW** Bank. Efficiency. Market Power. Concentration. Industrial Organization.

**AB** Traditional concerns about concentration in product markets have centered on the social losses associated with the mispricing that occur when market power is exercised. This paper focuses on a potentially greater loss from market power—a reduction in cost efficiency brought about by the lack of market discipline in concentrated markets. We employ data from the commercial banking industry, which produces very homogenous products in multiple markets with differing degrees of market concentration. We find the estimated efficiency cost of concentration to be several times larger than the social losses from mispricing as traditionally measured by the welfare triangle.

### Bernard, Andrew B.

**PD** June 1994. **TI** Interpreting Tests of the Convergence Hypothesis. **AU** Bernard, Andrew B.; Durlauf, Steven N. **AA** Bernard: Massachusetts Institute of Technology. Durlauf: University of Wisconsin and National Bureau of Economic Research. **SR** National Bureau of Economic Research Technical Paper: 159; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge MA 02138. **PG** not available. **PR** \$5.00. **JE** C31, C32, O41, O47. **KW** Convergence Hypothesis. Growth. Time Series. Cross-Section.

**AB** This paper provides a framework for understanding the cross-section and time series approaches which have been used to test the convergence hypothesis. First, we present two definitions of convergence which capture the implications of the neoclassical growth model for the relationship between current and future cross-country output differences. Second, we identify how the cross-section and time series approaches relate

to these definitions. Cross-section tests are shown to be associated with a weaker notion of convergence than time series tests. Third, we show how these alternative approaches make different assumptions on whether the data are well characterized by a limiting distribution. As a result, the choice of an appropriate testing framework is shown to depend on both the specific null and alternative hypotheses under consideration as well as on the initial conditions characterizing the data being studied.

### Berthold, Norbert

PD June 1994. TI Fiscal Federalism in Europe--Is It a Necessary Precondition for a Successful European Economic and Monetary Integration? AA International Monetary Fund. SR International Monetary Fund Working Paper: WP/94/74; International Monetary Fund, 700 19th Street, Washington, DC 20431. PG 14. PR not available. JE E62, E63, F33, F36. KW Economic Integration. Fiscal Policy. Stabilization. Europe.

AB An important question in the process of European integration concerns the best institutional level for stabilization policies. The theory of fiscal federalism gives criteria for evaluating if fiscal stabilization policies should take place on a centralized or on a decentralized level. This paper firstly discusses the usefulness of such policies. It reaches the conclusion that fiscal stabilization policies are, in general, not the adequate way of responding to shocks. However, since fiscal stabilization policies appear to be unavoidable for political reasons, the paper secondly discusses on which institutional level such policies should be located. Decentralized fiscal stabilization policies are preferable because they are disciplined more by market forces.

### Bertin, Amy L.

PD October 1993. TI Localized Competition and the Aggregation of Plant-Level Increasing Returns: Blast Furnaces 1929-1935. AU Bertin, Amy L.; Bresnahan, Timothy F.; Raff, Daniel M. G. AA Bertin and Bresnahan: Harvard University, Stanford University and National Bureau of Economic Research. Raff: Columbia University and National Bureau of Economic Research. SR Columbia PaineWebber Working Paper Series in Money, Economics and Finance: PW-93-10; PaineWebber Series, 6N Uris Hall, Columbia University, New York, NY 10027. PG 25. PR \$5.00 academics and non-profit institutions; \$6.00 corporations (add \$1.00 outside U.S., Canada and Puerto Rico). JE E13, L11. KW Aggregation.

AB We examine the relationship between plant-level production and aggregate productivity in Depression-era blast furnace operations. Pro-cyclical labor productivity in aggregate data is a direct reflection of plant-level short-run increasing returns to labor (SRIRL). This finding is anomalous in the context of recent empirical papers on aggregability. It occurs despite the presence of substantial interplant heterogeneity, the most common economic explanation of failures of aggregability. Lack of competition provides the connection. The economic explanation of the productivity aggregation results comes from poor short-run substitutability of one plant's output for another's, an increasingly important aspect of modern firms' operations.

### Besley, T.

PD January 1994. TI Fiscal Anarchy in the UK

AU Besley, T.; Preston, Ian; Ridge, Michael. AA Besley: Princeton University. Preston: University College London and Institute of Fiscal Studies. Ridge: Institute of Fiscal Studies. SR University College London Discussion Paper: 94-01; Department of Economics, University College London, Gower Street, London WC1E 6BT, ENGLAND. PG 36. PR 3.00 pounds; checks payable to Department of Economics, University College London. JE H26, H71, K42. KW Tax Compliance. Local Public Finance.

AB The UK's experience with the poll tax reminds us that even in an economy with a relatively well developed detection and legal system, one cannot take tax compliance for granted. The experience of the poll tax provides a unique opportunity to study many dimensions of tax compliance. We model nonpayment rates in a short panel of data on the 366 English local authorities. The transparent observability of individual and aggregate liabilities makes reliable measurement of rates of nonpayment possible. Moreover, these rates rose to unprecedented levels as well as exhibiting considerable variation across authorities. This, together with the variation in local taxes both between districts and over time, creates an ideal opportunity for empirical investigation. Our empirical specification allows us to investigate the determinants of compliance as a function of authority characteristics from census and other geographical data. Moreover, the analysis takes seriously the possibility of neighborhood influences across authority boundaries. Our empirical results confirm the idea that higher taxes lead to larger compliance problems and that attempts to enforce compliance have a positive effect. Neighborhood effects on non-compliance were less conspicuous, figuring significantly, if at all, only in the final year.

### Binmore, Kenneth

PD October 1994. TI Musical Chains: Modeling Noisy Evolution. AU Binmore, Kenneth; Samuelson, Larry; Vaughan, Richard. AA Binmore and Vaughan: University College London. Samuelson: University of Wisconsin. SR University College London Discussion Paper: 94-13; Department of Economics, University College London, Gower Street, London WC1E 6BT, ENGLAND. PG 35. PR 3.00 pounds; checks payable to Department of Economics, University College London. JE C72, D83. KW Evolutionary Game Theory. Equilibrium Selection.

AB This paper presents a model of a noisy evolutionary process with a finite population of players that is approximated by the replicator equation in the long run, but exhibits quite different behavior in the ultra long run. Waiting times are estimated and compared with those of other models. Finally, the equilibrium selection implications are explored for the case of the Stag-Hunt game.

TI Learning to be Imperfect: The Ultimatum Game.

AU Gale, John; Binmore, Kenneth; Samuelson, Larry.

### Bloemhof-Ruwaard, Jacqueline M.

PD 1994. TI Interactions Between Operational Research and Environmental Management. AU Bloemhof-Ruwaard, Jacqueline M.; van Beek, Paul; Hordijk, Leen; Van Wassenhove, Luk N. AA Bloemhof-Ruwaard, van Beek and Hordijk: Wageningen Agricultural University. Van Wassenhove: INSEAD. SR INSEAD Working Papers: 94/49/TM; INSEAD, Boulevard de Constance, Fontainebleau, 77305 Cedex, FRANCE. PG 21. PR not available.

**JE** D21, D24, E23. **KW** Environment. Modeling. Optimization. Pollution Control. Supply Chains.

**AB** Economic growth is frequently considered to be in conflict with sustainable development and environmental quality. Therefore, a decision maker needs to know how to deal with the environmental issues that come around. This article aims to inform Operational Researchers of the possibilities of incorporating environmental issues when analyzing industrial supply chains and to inform environmental scientists more generally of the value of using OR models and techniques in environmental research.

### **Blundell, Richard**

**TI** Quadratic Engel Curves, Indirect Tax Reform and Welfare Measurement. **AU** Banks, James; Blundell, Richard; Lewbel, Arthur.

### **Bonser-Neal, Catherine**

**TI** Are Japanese Interest Rates Too Stable? **AU** Roley, V. Vance; Bonser-Neal, Catherine.

### **Borensztein, Eduardo**

**PD** June 1994. **TI** Economic Reform and Structural Adjustment in East European Industry. **AU** Borensztein, Eduardo; Ostry, Jonathan D. **AA** International Monetary Fund. **SR** International Monetary Fund Working Paper: WP/94/80; International Monetary Fund, 700 19th Street, Washington, DC 20431. **PG** 10. **PR** not available. **JE** E23, E32, E65, O52, P52. **KW** Production. Business Cycle. Economic Reform. Europe.

**AB** A consistent set of disaggregated industrial output data for four Eastern European countries is examined in order to determine the extent to which structural adjustment has taken place since the initiation of market-oriented reform. The latter created a massive relative price shock whose effects on the structure of the industrial sectors of these economies is shown to have been relatively small, at least one to two years after the reforms. An implication is that one argument in favor of more gradualist reform--based on the premise that more gradualism implies a smaller output cost in the short run--is questionable. By and large in these economies, the output cost associated with the removal of relative price distortions may still have to be faced.

**PD** September 1994. **TI** Structural Policies in Developing Countries. **AA** International Monetary Fund. **SR** International Monetary Fund Papers on Policy Analysis and Assessment: PPAA/94/19; International Monetary Fund, Washington, DC 20431. **PG** 19. **PR** not available. **JE** O16, O19, F15, G18. **KW** Economic Development. International Trade. Financial Markets.

**AB** This paper discusses the broad orientation of the economic systems adopted in developing countries. While government-led development strategies were widely followed by developing countries since the 1950's and 1960's, a distinct trend towards the adoption of market-oriented systems has developed in the last decade. The paper reviews international trade policies, noting the move away from protectionism, and financial markets policies, where financial repression is also giving way to more liberal systems. The paper also discusses newer ideas supporting "industrial policies" or policies to promote certain export activities, that are partly inspired by the success of several East Asian economies, and observes that their application to other developing countries would not be

promising.

**PD** September 1994. **TI** How Does Foreign Direct Investment Affect Economic Growth? **AU** Borensztein, Eduardo; De Gregorio, Jose; Lee, Jong-Wha. **AA** Borensztein and De Gregorio; International Monetary Fund. Lee; Korea University and National Bureau of Economic Research. **SR** International Monetary Fund Working Paper: WP/94/110; International Monetary Fund, 700 19th Street, Washington, DC 20431. **PG** 14. **PR** not available. **JE** O19, O41, F21. **KW** Foreign Direct Investment. Growth. Human Capital.

**AB** We test the effect of foreign direct investment (FDI) on economic growth in a cross-country regression framework, utilizing data on FDI flows from industrial countries to 69 developing countries over the last two decades. Our results suggest that FDI is an important vehicle for the transfer of technology, contributing relatively more to growth than domestic investment. However, the higher productivity of FDI holds only when the host country has a minimum threshold stock of human capital. In addition, FDI has the effect of increasing total investment in the economy more than one for one, which suggests the predominance of complementarity effects with domestic firms.

### **Borgens, Tilman**

**PD** December 1993. **TI** Learning Through Reinforcement and Replicator Dynamics. **AU** Borgens, Tilman; Sarin, Rajiu. **AA** Borgens; University College London. Sarin; University of California. **SR** University College London Discussion Paper: 93-19; Department of Economics, University College London, Gower Street, London WC1E 6BT, ENGLAND. **PG** not available. **PR** 3.00 pounds; checks payable to Department of Economics, University College London. **JE** C72, D83. **KW** Games. Learning. Evolution.

**AB** This paper considers Cross' model of learning. This model is a special case of Bush and Mosteller's stochastic learning theory. We compare Cross' model to a model of biological evolution. We show that, in the continuous time limit, the two models both coincide with the deterministic, continuous time replicator process. We emphasize that our result concerns only finite points in time; it does not concern the infinite time horizon. Specifically, the asymptotics of the learning model differ substantially from the asymptotics of the biological model. We discuss several conditions on which our result depends. One is that all payoffs are positive (i.e., that all experiences which a player makes are reinforcing). Another is that the game is played by individuals, not by randomly matched populations. We describe what happens if these conditions are violated. The mathematical techniques which we employ, and which are due to Norman, may be of wider use. They show how a Markov process that is stochastic in discrete time may converge to a deterministic process if the continuous time limit is considered.

### **Borjas, George J.**

**PD** November 1993. **TI** A Two-Stage Estimator for Probit Models With Structural Group Effects. **AU** Borjas, George J.; Sueyoshi, Glenn T. **AA** Borjas; University of California, San Diego and National Bureau of Economic Research. Sueyoshi; University of California, San Diego. **SR** National Bureau of Economic Research Technical Paper: 146; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge MA 02138. **PG** not available. **PR** \$5.00. **JE** C13, C15,

C31, C51, C63. KW Probit Models. Estimation. Monte Carlo Simulation.

AB This paper outlines a two-stage technique for estimation and inference in probit models with structural group effects. The structural group specification belongs to a broader class of random components models. In particular, individuals in a given group share a common component in the specification of the conditional mean of a latent variable. For a number of computational reasons, existing random-effects models are impractical for estimation and inference in this type of problem. Our two-stage estimator provides an easily estimable alternative to the random effect specification. In addition, we conduct a Monte Carlo simulation comparing the performance of alternative estimators, and find that the two-stage estimator is superior--both in terms of estimation and inference--to traditional estimators.

### Bouchet, Andre

PD October 1993. TI Coverings of Multimatroids by Independent Sets. AA University of Bonn. SR Universitaet Bonn Sonderforschungsbereich 303 - Discussion Paper: 94817; Sonderforschungsbereich 303 an der Universitaet Bonn, Adenauerallee 24-42, D-5300 Bonn 1, DEUTSCHLAND. PG 35. PR no charge. JE C44. KW Multimatroids. Eulerian Graphs.

AB Multimatroids are combinatorial structures that generalize matroids and arise in the study of Eulerian graphs. We prove, by means of an efficient algorithm, a covering theorem for multimatroids. This theorem extends Edmonds' covering theorem for matroids. It also generalizes a theorem of Jackson on the Euler tours of a 4-regular graph.

PD March 1994. TI Delta-Matroids. Jump Systems and Delta-Submodular Polyhedra. AU Bouchet, Andre; Cunningham, William. AA Bouchet: University of Bonn. Cunningham: University of Waterloo. SR Universitaet Bonn Sonderforschungsbereich 303 - Discussion Paper: 94819; Sonderforschungsbereich 303 an der Universitaet Bonn, Adenauerallee 24-42, D-5300 Bonn 1, DEUTSCHLAND. PG 28. PR no charge. JE C44. KW Delta Matroids. Jump Systems. Delta Submodular Polyhedra.

AB We relate an axiomatic generalization of matroids, called a jump system, to polyhedra arising from delta-submodular functions. Unlike the case for usual submodularity, the points of interest are not all the integral points in the relevant polyhedron, but form a subset of them. However, we do show that the convex hull of the set of points of a jump system is a delta-submodular polyhedron, and that the integral points of an integral delta-submodular polyhedron determine a (special) jump system. We also prove addition and composition theorems for jump systems, which have several applications for delta-matroids and matroids.

### Boyd, John

PD June 1994. TI Ex-Dividend Price Behavior of Common Stocks. AU Boyd, John; Jagannathan, Ravi. AA Federal Reserve Bank of Minneapolis and University of Minnesota. SR Federal Reserve Bank of Minneapolis Staff Report: 173; Research Department, Federal Reserve Bank of Minneapolis, 250 Marquette Ave., Minneapolis, MN 55401. PG 25. PR no charge. JE G12, G35. KW Dividends. Dividend Capture. Arbitrage.

AB This study examines common stock prices around ex-dividend dates. Such price data usually contain a mixture of

observations--some with and some without arbitrageurs and/or dividend capturers active. Our theory predicts that such mixing will result in a nonlinear relation between percentage price drop and dividend yield--not the commonly assumed linear relation. This prediction and another important prediction of the theory are supported empirically. In a variety of tests, marginal price drop has been an excellent (average) rule of thumb.

### Boyum, David

PD June 1994. TI Drug Abuse Control Policy From a Crime-Control Perspective. AU Boyum, David; Kleiman, Mark A. R. AA Boyum: Harvard University. Kleiman: Harvard University and The Program in Criminal Justice/Management. SR Harvard John F. Kennedy School of Government Faculty Research Working Paper Series: R94-16; John F. Kennedy School of Government, Harvard University, 79 John F. Kennedy Street, Cambridge, MA 02138. PG 53. PR no charge. JE D11, H59, I18. KW Drug Abuse. Criminal Activity. Governmental Policy.

AB Everyone agrees that drugs are partly to blame for the nations' crime problem. But just how drugs cause crime, and, more importantly, just what changes in drug control policy would reduce crime, and by how much, are open to debate. Unfortunately, academic discussion commonly frames drug policy as a matter of prohibition vs. legalization. A review of the evidence concerning the myriad ways in which drugs and drug policy might cause or prevent predatory criminal behavior indicates that no one can know with confidence whether legalizing the most socially damaging illicit drugs (cocaine and heroin) would increase or decrease crime. The causal links between drugs and crime are numerous and complex; evidence that might help sort out the drugs-crime connections is often ambiguous; and policy effects are highly sensitive to specific circumstances of implementation, and are thus likely to vary across drugs, cities, and time periods. Despite all this uncertainty, it is nevertheless possible to reach some firm conclusions about drug policy and crime. In particular, three kinds of interventions--policies that decrease alcohol use (which is more often involved in crime than illicit drug use) without creating significant black markets; policies that reduce the demand for drugs among criminally-active users without raising the prices of illicit drugs; and policies that limit the violence connected to illicit drug markets--are all likely to reduce crime. Candidate policies include higher taxes on liquor, stricter regulation of intoxicated behavior, expanded treatment and coerced abstinence programs for drug-involved offenders, and disruption of open retail drug markets.

### Bresnahan, Timothy F.

TI Localized Competition and the Aggregation of Plant-Level Increasing Returns: Blast Furnaces 1929-1935. AU Bertin, Amy L.; Bresnahan, Timothy F.; Raff, Daniel M. G.

### Broadie, Mark

PD September 1993. TI Bounds and Approximations for American Option Values. AU Broadie, Mark; Detemple, Jerome. AA Broadie: Columbia University. Detemple: McGill University. SR Columbia PaineWebber Working Paper Series in Money, Economics and Finance: PW-93-07; PaineWebber Series, 6N Uris Hall, Columbia University, New York, NY 10027. PG 13. PR \$5.00 academics and non-profit institutions; \$6.00 corporations (add \$1.00 outside U.S.,

Canada and Puerto Rico). **JE** G12. **KW** Option Pricing. Early Exercise Policy. Security Valuation. Cap.

**AB** In this paper we provide bounds on the price and the optimal exercise boundary of American call and put options written on a dividend paying asset. The bounds on the option price are quite tight and can be computed very quickly. Based on the bounds, we provide an approximation to the price of the option which is similarly quick to compute. The bounds and approximation are sufficiently simple that the computations can be done relatively easily in a spreadsheet. Comparisons are made to existing methods for computing American option prices.

**PD** September 1993. **TI** American Capped Call Options on Dividend Paying Assets. **AU** Broadie, Mark; Detemple, Jerome. **AA** Broadie; Columbia University. **Detemple**: McGill University. **SR** Columbia PaineWebber Working Paper Series in Money, Economics and Finance: PW-93-08; PaineWebber Series, 6N Uris Hall, Columbia University, New York, NY 10027. **PG** 18. **PR** \$5.00 academics and non-profit institutions; \$6.00 corporations (add \$1.00 outside U.S., Canada and Puerto Rico). **JE** G12. **KW** Option Pricing. Dividends. Early Exercise Policy. Free Boundary. Security Valuation. Cap. Floor.

**AB** This paper addresses the problem of valuing American call options with caps on dividend paying assets. Since early exercise is allowed, the valuation problem requires the determination of optimal exercise policies. Two types of caps are analyzed, constant caps and caps with a constant growth rate. For constant caps the optimal exercise policy is the exercise at the first time at which the underlying asset's price equals or exceeds the minimum of the cap and the optimal exercise boundary for the corresponding uncapped option. For caps that grow at a constant rate the optimal exercise strategy can be specified by three endogenous parameters. The optimal exercise parameters are explicitly characterized in terms of the parameters of the option contract and of the price process of the underlying asset. In most cases explicit valuation formulas are derived. Computational results are also provided.

**PD** December 1993. **TI** Estimating Security Price Derivatives Using Simulation. **AU** Broadie, Mark; Glasserman, Paul. **AA** Columbia University. **SR** Columbia PaineWebber Working Paper Series in Money, Economics and Finance: PW-93-11; PaineWebber Series, 6N Uris Hall, Columbia University, New York, NY 10027. **PG** 12. **PR** \$5.00 academics and non-profit institutions; \$6.00 corporations (add \$1.00 outside U.S., Canada and Puerto Rico). **JE** E47. **G12**. **KW** Simulation. Derivative Estimation. Security Pricing. Option Pricing.

**AB** Simulation has proved to be a valuable tool for estimating security prices for which simple closed form solutions do not exist. In this paper we present two direct methods, a pathwise method and a likelihood ratio method, for estimating derivatives of security prices using simulation. With the direct methods, the information from a single simulation can be used to estimate multiple derivatives along with a security's price. The main advantage of the direct methods over re-simulation is increased computational speed. Another advantage is that the direct methods give unbiased estimates of derivatives, whereas the estimates obtained by re-simulation are biased. Computational results are given for both direct methods and comparisons are made to the standard method of re-simulation to estimate derivatives. The methods are illustrated for a path independent model (European options), a

path dependent model (Asian options), and a model with multiple state variables (options with stochastic volatility).

**PD** July 1994. **TI** The Valuation of American Options on Multiple Assets. **AU** Broadie, Mark; Detemple, Jerome. **AA** Broadie; Columbia University. **Detemple**: McGill University. **SR** Columbia PaineWebber Working Paper Series in Money, Economics and Finance: PW-94-09; PaineWebber Series, 6N Uris Hall, Columbia University, New York, NY 10027. **PG** 20. **PR** \$5.00 academics and non-profit institutions; \$6.00 corporations (add \$1.00 outside U.S., Canada and Puerto Rico). **JE** G13. **KW** Option Pricing. Early Exercise Policy. Free Boundary. Security Valuation. Multiple Assets. Caps. Investment Under Uncertainty.

**AB** In this paper we provide valuation formulas for several types of American options on two or more assets. Our contribution is twofold. First we characterize the optimal exercise regions and provide valuation formulas for a number of American option contracts on multiple underlying assets with convex payoff functions. Examples include options on the maximum of two assets, dual strike options, spread options, exchange options, options on the product and powers of the product, and options on the arithmetic average of two assets. Second, we also consider a class of contracts with nonconvex payoffs, such as American capped exchange options. For this option we explicitly identify the optimal exercise boundary and provide a decomposition of the price in terms of a capped exchange option with automatic exercise at the cap and an early exercise premium involving the benefits of exercising prior to reaching the cap. Beside generalizing the current literature on American option valuation our analysis also has implications for the macroeconomic theory of investment under uncertainty. A specialization of one of our models also provides a new representation formula for an American capped option on a single underlying asset.

#### **Bruggeman, Werner**

**TI** An Empirical Study of Capital Budgeting Practices for Strategic Investments in C.I.M. Technologies. **AU** Slagmulder, Regine; Bruggeman, Werner; Van Wassenhove, L. N.

#### **Brunner, Allan D.**

**PD** August 1994. **TI** Determinants of the 1991-93 Japanese Recession: Evidence From a Structural Model of the Japanese Economy. **AU** Brunner, Allan D.; Kamin, Steven B. **AA** Board of Governors of the Federal Reserve System. **SR** Board of Governors of the Federal Reserve System International Finance Discussion Paper: 479; Board of Governors of the Federal Reserve System, Division of International Finance, Washington, DC 20551. **PG** 52. **PR** no charge. **JE** F47, F41, C53. **KW** Japan. Business Cycles. Economic Fluctuations. Econometric Model.

**AB** The objectives of this paper are to determine the extent to which various factors contributed to the current recession in Japan and to assess whether the recent behavior of the Japanese economy differs from that in previous recession. Toward that end, we develop a small, structural macroeconomic model of the Japanese economy and estimate it using data from 1971 Q1 through 1991 Q1, the period just prior to the recent downturn. The important results can be summarized as follows. First, the severity of the current recession probably does not reflect structural economic changes. Second, the poor economic performance in 1991-1993 period was to some extent

predictable, reflecting the unwinding of imbalances that developed during the preceding expansion. Finally, unpredictable movements in exchange rates, land, and stock prices occurring after 1991 played an important, but not predominant, part in accentuating the downturn, while unusually stimulative fiscal and monetary policies appear to have contributed substantially to GDP during the recession.

**TI** Are Banks Market Timers or Market Makers? Explaining Foreign Exchange Trading Profits. **AU** Ammer, John; Brunner, Allan D.

### **Bullard, James B.**

**PD** August 1994. **TI** Using Genetic Algorithms to Model the Evolution of Heterogeneous Beliefs. **AU** Bullard, James B.; Duffy, John. **AA** Bullard: Federal Reserve Bank of St. Louis. Duffy: University of Pittsburgh. **SR** Federal Reserve Bank of St. Louis Working Paper: 94-028A; Research and Public Information Division, Federal Reserve Bank of St. Louis, P.O. Box 442, St. Louis, MO 63166. **PG** 16. **PR** no charge. **JE** C63, D84, D58. **KW** Learning. Genetic Algorithm. Beliefs.

**AB** Genetic algorithms have been used by economists to model the process by which a population of heterogeneous agents learns how to optimize a given objective. However, most general equilibrium models in use today presume that agents already know how to optimize. If agents face any uncertainty, it is typically with regard to their expectations about the future. In this paper we show how a genetic algorithm can be used to model the process by which a population of agents with heterogeneous beliefs learns how to form rational expectation forecasts. We retain the assumption that agents optimally solve their maximization problem at each date given their beliefs at each date. Agents initially lack the ability to form rational expectations forecasts and have, instead, heterogeneous beliefs about the future. Using a genetic algorithm to model the evolution of these beliefs, we find that our population of artificial adaptive agents eventually coordinates their beliefs so as to achieve a rational expectations equilibrium of the model. We also report the results of a number of computational experiments that were performed using our genetic algorithm model.

### **Burdett, Kenneth**

**PD** April 1994. **TI** Two-Sided Search. **AU** Burdett, Kenneth; Wright, Randall. **AA** Burdett: University of Essex. Wright: Federal Reserve Bank of Minneapolis and University of Pennsylvania. **SR** Federal Reserve Bank of Minneapolis Staff Report: 169; Research Department, Federal Reserve Bank of Minneapolis, 250 Marquette Ave., Minneapolis, MN 55401. **PG** 25. **PR** no charge. **JE** C78, D83. **KW** Search. Unemployment.

**AB** We integrate search theory into an equilibrium framework in a new way and argue that the result is a simple but powerful tool for understanding many issues related to bilateral matching. We assume for much of what we do that utility is less than perfectly transferable. This turns out to generate multiple equilibria that do not arise in the standard model, with transferable utility, unless one adds increasing returns. We also provide simple conditions for uniqueness that apply to models with or without transferable utility or increasing returns. Examples, applications, and extensions are discussed.

### **Burgelman, Robert A.**

**PD** December 1994. **TI** A Process Model of Strategic Business Exit in an Established High Technology Firm. **AA** Stanford University. **SR** Stanford Graduate School of Business Research Paper: 1327; Jackson Library Graduate School of Business, Stanford University, Stanford, CA 94305-5016. **PG** 28. **PR** no charge. **JE** D21, L21, L22, M11. **KW** Business Exit. Intel. Management.

**AB** The process model of strategic business exit (SBE) maps the activities of different levels of management onto the business and corporate levels of strategy making involved in Intel Corporation's exit from the dynamic random access memory (DRAM) business during the mid- 1980's. The model examines how well the activities of different levels of management are articulated within and across the business and corporate levels of strategy making involved in SBE. It identifies vicious circles, dilemmas, paradoxes, and tensions within the pattern of managerial activities involved in SBE and highlights the distinction between business-level resource allocation issues and corporate-level distinctive competence issues. The SBE process model contributes to the development of an evolutionary process theory of strategy making by elucidating the subtle interplays between selection and coordination in strategy making, and by providing a tool for mapping the strategy making of complex players.

### **Burnside, Craig**

**PD** May 1994. **TI** Small Sample Properties of Generalized Method of Moments Based Wald Tests. **AU** Burnside, Craig; Eichenbaum, Martin. **AA** Burnside: University of Pittsburgh. Eichenbaum: Northwestern University and National Bureau of Economic Research. **SR** National Bureau of Economic Research Technical Paper: 155; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge MA 02138. **PG** not available. **PR** \$5.00. **JE** C12, C13. **KW** Hypothesis Testing. Generalized Method of Moments. Asymptotic Properties.

**AB** This paper assesses the small sample properties of Generalized Method of Moments (GMM) based Wald statistics. The analysis is conducted assuming that the data generating process corresponds to (i) a simple vector white noise process and (ii) an equilibrium business cycle model. Our key findings are that the small sample size of the Wald tests exceeds their asymptotic size, and that their size increases uniformly with the dimensionality of joint hypotheses. For tests involving even moderate numbers of moment restrictions, the small sample size of the tests greatly exceeds their asymptotic size. Relying on asymptotic distribution theory leads one to reject joint hypothesis tests far too often. We argue that the source of the problem is the difficulty of estimating the spectral density matrix of the GMM residuals, which is needed to conduct inference in a GMM environment. Imposing restrictions implied by the underlying economic model being investigated or the null hypothesis being tested on this spectral density matrix can lead to substantial improvements in the small sample properties of the Wald tests.

### **Butcher, Kristin F.**

**PD** September 1994. **TI** Cross-City Evidence on the Relationship Between Immigration and Crime. **AU** Butcher, Kristin F.; Piehl, Anne Morrison. **AA** Butcher: Virginia Polytechnic Institute and State University. Piehl: Harvard University. **SR** Harvard John F. Kennedy School of

Government Faculty Research Working Paper Series: R94-26; John F. Kennedy School of Government, Harvard University, 79 John F. Kennedy Street, Cambridge, MA 02138. PG 25. PR no charge. JE C21, C22, J11, K42, R11. KW Criminal Activity. Immigration. Demographics.

AB Public concerns about the costs of immigration and crime are high, and sometimes overlapping. This paper investigates the relationship between immigration into a metropolitan area and that area's crime rate over the 1980's. Using data from the Uniform Crime Reports and the Current Population Surveys, we find, in the cross-section, that cities with high crime rates tend to have large numbers of immigrants. However, controlling for the demographic (racial and ethnic) characteristics of the cities, recent immigrants appear to have no effect on crime rates. Stated differently, crime rates have large city-specific components. When we try to explain changes in the crime rate in a city over time, recent immigration again has no effect. In a secondary analysis of individual data from the National Longitudinal Survey of Youth, we find that youth born abroad are statistically significantly less likely to be criminally active, based on a variety of measures.

#### Butkiewicz, James L.

PD August 1994. TI The Impact of a Lender of Last Resort During the Great Depression: The Case of the Reconstruction Finance Corporation. AA University of Delaware. SR University of Delaware Department of Economics Working Paper: 94-6; College of Business and Economics, Department of Economics, University of Delaware, Newark, Delaware 19716-2720. PG 19. PR not available. JE G21, G28, N22. KW Reconstruction Finance Corporation. Great Depression. Financial Crisis.

AB This paper investigates the impact of the RFC's lending to banks prior to the financial crisis of 1933. The RFC is found to have played a positive role in reducing bank failures and improving monetary conditions prior to the financial collapse. However, publication of the names of RFC loan recipients beginning in late August 1932 is found to offset the positive impact of the initial RFC lending. Empirical evidence also shows that RFC loans reduced bank failures independent of the monetary expansion that occurred in mid-1932. The RFC experience demonstrates the value of a lender of last resort during a financial crisis.

#### Cadot, Olivier

PD 1994. TI France and the CEEC's: Adjusting to Another Enlargement. AU Cadot, Olivier; de Melo, Jaime. AA Cadot: INSEAD. de Melo: University of Geneva and Centre for Economic Policy. SR INSEAD Working Papers: 94/40/EPS; INSEAD, Boulevard de Constance, Fontainebleau, 77305 Cedex, FRANCE. PG 23. PR not available. JE F14, F15, F16. KW Economic Integration. Trade Protection. France. CEEC's.

AB The paper considers the effects of trade expansion between the EU and the Central & Eastern European Countries (CEEC's) on France. Taking a political-economy perspective, we attempt to detect potential demand for protection at the sectoral and regional level. Recent aggregate figures for trade and direct investment are reviewed, showing that French trade relations with the CEEC's have as yet failed to expand by as much as a simple gravity relationship would predict, while French direct investment in the area remains small. The paper

then considers disaggregated trade data; simple trade expansion simulations are carried out suggesting that job creation and destruction at the regional level is likely to be marginal. The paper closes by drawing a comparison with France's adjustment to the EU's 1986 Southern enlargement (to Spain and Portugal), showing that fears of job losses turned out in that case to be largely unfounded, while Spain attracted significant amounts of French direct investment.

PD 1994. TI The Europe Agreements and EC-LDC Relations. AU Cadot, Olivier; de Melo, Jaime. AA Cadot: INSEAD. de Melo: University of Geneva and Centre of Economic Policy. SR INSEAD Working Papers: 94/41/EPS; INSEAD, Boulevard de Constance, Fontainebleau, 77305 Cedex, FRANCE. PG 20. PR not available. JE F14, F15, F20. KW Asia. Eastern Bloc. International Trade. Pacific.

AB The paper considers the implications of recent changes in the EC relationship with the Central & Eastern European Countries (CEECs) for the EC's traditional links with ACP countries. After reviewing some important aspects of the trade regime implemented by the Lome Convention, the paper analyzes the Europe Agreements signed in 1991 between the EC and the CEECs, showing that they give only marginal trade preference to the CEECs. The paper also considers FDI and aid flows and argues that there is up to now little evidence of a massive redirection of the flow of funds from the EC to the CEEC's and away from the ACPs.

PD 1994. TI Early Trade Patterns Under the Europe Agreements: France, Germany and Italy. AU Cadot, Olivier; Faini, Riccardo; de Melo, Jaime. AA Cadot: INSEAD. Faini: University of Brescia and Centre for Economic Policy Research. de Melo: University of Geneva and Centre for Economic Policy Research. SR INSEAD Working Papers: 94/47/EPS; INSEAD, Boulevard de Constance, Fontainebleau, 77305 Cedex, FRANCE. PG 6. PR not available. JE F13, F14, F15. KW Trade Negotiation.

AB In the sphere of trade preferences, the EAs have largely amounted to a ratification of the status quo reached between the EU and the CEECs following prior trade liberalization by both sets of partners. It is widely accepted that this cautious approach reflected fears of large adjustment costs among EU members. The paper examines the CEEC-EU trade pattern over 1990-93, finding no evidence in support of these fears. Detailed regional-level calculations of likely job displacements for France corroborate the findings from aggregate trade flows.

PD August 1994. TI International Trade and Environmental Policy: Production vs. Consumption Taxes. AU Cadot, Olivier; Hung, Nguyen Manh; Richell, Yves. AA Cadot: INSEAD. Hung and Richell: Universite Laval. SR INSEAD Working Papers: 94/43/EPS; INSEAD, Boulevard de Constance, Fontainebleau, 77305 Cedex, FRANCE. PG 6. PR not available. JE O24. KW Taxation.

AB The paper considers the choice of production versus consumption taxes as corrective instruments for environmental externalities in a two-country international duopoly context. It is shown that the use of either instrument or of any combination of the two is a Nash equilibrium of a taxation game between the two countries. However the equilibrium where both countries use exclusively a production tax Pareto-dominates all other ones in a symmetric game.



**Calem, Paul S.**

PD October 1994. TI Branch Banking and the Geography of Bank Pricing. AU Calem, Paul S.; Nakamura, Leonard I. AA Federal Reserve Bank of Philadelphia. SR Federal Reserve Bank of Philadelphia Research Working Paper: 94-19; Working Papers, Department of Research, Federal Reserve Bank of Philadelphia, 10 Independence Mall, Philadelphia, PA 19106. PG 20. PR no charge except overseas airmail, \$3.00; checks/money orders in U.S. funds payable to Federal Reserve Bank of Philadelphia. JE D21, D43, G21. KW Financial Institutions. Bank Branching. Pricing.

AB We show that bank branching tends to reduce price differentials across localities and in this way tends to be procompetitive. Banking services at peripheral locations will be priced more competitively when those locales are served by branch networks. We develop a theoretical model in support of this view and also offer empirical evidence.

PD December 1994. TI Competition and Specialization in the Hospital Industry: An Application of Hotelling's Location Model. AU Calem, Paul S.; Rizzo, John A. AA Calem: Federal Reserve Bank of Philadelphia. Rizzo: Yale University. SR Federal Reserve Bank of Philadelphia Research Working Paper: 94-27; Working Papers, Department of Research, Federal Reserve Bank of Philadelphia, 10 Independence Mall, Philadelphia, PA 19106. PG 24. PR no charge except overseas airmail, \$3.00; checks/money orders in U.S. funds payable to Federal Reserve Bank of Philadelphia. JE D43, I11, L13. KW Health Care. Competition. Hospital Mergers.

AB This paper offers a model of a hospital market in which hospitals compete with respect to specialty mix and quality of service. The model highlights the impact of several key parameters on patterns of specialization in hospital markets. In addition, the model suggests an efficiency benefit from hospital mergers, as it implies that merged hospitals will more closely align their service mixes with patient needs.

**Caleplones, George**

PD October 1993. TI The Impervious Austrian. AA University College London. SR University College London Discussion Paper: 93-14; Department of Economics, University College London, Gower Street, London WC1E 6BT, ENGLAND. PG 47. PR 3.00 pounds; checks payable to Department of Economics, University College London. JE A11, A13, B13. KW Marxism. Economic Thought. Entrepreneur. Schumpeter.

AB Schumpeter himself, in his *History of Economic Analysis*, is the author who coined, referring to Bolm-Bawerk, the phrase: "a bourgeois Marx." As a respectful student of Bolm-Bawerk he, therefore, is the most deserving of the title of a bourgeois Marxist, especially as he has admitted to conscious efforts at a conservative reinterpretation of Marx. The early European historical compromise between the bourgeoisie and the nobility, the latter remaining dominant socially and politically, with the former assuming economic command, has dominated the background of Schumpeter's political thinking, leading to his endorsement of an authoritarian version of democracy, where elective professional politicians marginalize the people politically, just like entrepreneurs marginalize the working class economically. The socialism which he predicts consists of a mere extension of this regime, with technocrats assuming the role and position of capitalists entrepreneurs. In this manner Schumpeter uses many aspects of the analysis of

Marx-- whom he both admired and resented--to the deeply anti-Marxist purpose of justifying the perpetuation of elitist roles both in the polity and in the economy.

**Cameron, Colin**

PD October 1994. TI An R-Squared Measure of Goodness of Fit for Some Common Nonlinear Regression Models. AU Cameron, Colin; Windemeyer, Frank. AA Cameron: University of California. Windemeyer: University College London. SR University College London Discussion Paper: 94-12; Department of Economics, University College London, Gower Street, London WC1E 6BT, ENGLAND. PG 14. PR 3.00 pounds; checks payable to Department of Economics, University College London. JE C52, C21, C22. KW R-Squared. Exponential Family. Kullback-Leibler. Entropy.

AB For regression models other than the linear model, R-squared type goodness-of-fit summary statistics have been constructed for particular models using a variety of methods. We propose an R-squared measure of goodness of fit for the class of exponential family regression models, which includes logit, probit, Poisson, geometric, gamma, and exponential. This R-squared is defined as the proportionate reduction in uncertainty, measured by Kullback-Leibler divergence, due to the inclusion of regressors. Under further conditions concerning the conditional mean function it can also be interpreted as the fraction of uncertainty explained by the fitted model.

**Campa, Jose M.**

PD September 1994. TI Realignment Risk in the Exchange Rate Mechanism: Evidence From Pound- Mark Cross-Rate Options. AU Campa, Jose M.; Chang, P.H. Kevin. AA Campa: New York University. Chang: New York University and University of Pennsylvania. SR Federal Reserve Bank of Philadelphia Research Working Paper: 94-28; Working Papers, Department of Research, Federal Reserve Bank of Philadelphia, 10 Independence Mall, Philadelphia, PA 19106. PG 20. PR no charge except overseas airmail, \$3.00; checks/money orders in U.S. funds payable to Federal Reserve Bank of Philadelphia. JE F31, G12, G15, G18. KW Foreign Exchange. Arbitrage. Implied Volatility.

AB This paper uses a new data source, options on the pound-mark cross-rate, to examine the credibility of the exchange rate band between the German mark and the British pound in the Exchange Rate Mechanism from October 1990 through August 1992. Using two arbitrage-based tests, we provide clear evidence of imperfect credibility throughout this entire period and determine minimum bounds perceived by the market for the "intensity" of realignment, a measure incorporating both probability and magnitude of realignment. Finally, we identify a positive empirical relationship between implied volatility and the change rate's distance from the center of the band that proves useful for evaluating alternative theoretical models of target zones.

**Campbell, John Y.**

PD September 1994. TI By Force of Habit: A Consumption-Based Explanation of Aggregate Stock Market Behavior. AU Campbell, John Y.; Cochrane, John H. AA Campbell: Harvard University and National Bureau of Economic Research. Cochrane: University of Chicago and National Bureau of Economic Research. SR Federal Reserve Bank of Philadelphia Research Working Paper: 94-17; Working

Papers, Department of Research, Federal Reserve Bank of Philadelphia, 10 Independence Mall, Philadelphia, PA 19106. PG 48. PR no charge except overseas airmail, \$3.00; checks/money orders in U.S. funds payable to Federal Reserve Bank of Philadelphia. JE D11, G12, G14. KW Equity Premium. Volatility. Standard Power Utility. CAPM.

**AB** We present a consumption-based model that explains the equity premium and the long-horizon predictability of excess stock returns and predicts time-varying volatility in stock returns. Our model has standard power utility with an i.i.d. consumption growth driving process, but it is modified to include a slow-moving habit. We do not rely on large interest rate variation; in fact, the model can have a constant risk-free rate. We use plausible parameters and obtain neither an extremely skewed distribution nor negative realizations of the marginal rate of substitution. Our model predicts many of the difficulties that beset the standard power utility model, including Euler equation rejections, no correlation between mean consumption growth and interest rates, very high estimates of risk-aversion, and pricing errors that are larger than those of the static CAPM. Since our model captures the equity premium, it implies that fluctuations have important welfare costs.

#### Canner, Niko

**PD** August 1994. **TI** An Asset Allocation Puzzle. **AU** Canner, Niko; Mankiw, N. Gregory; Weil, David N. **AA** Canner and Mankiw: Harvard University. Weil: Brown University. **SR** Brown University Department of Economics Working Paper: 94-20; Department of Economics, Brown University, Providence, RI 02912. **PG** 22. **PR** no charge. **JE** G11, G12. **KW** Portfolio Allocation. Asset Allocation. Mutual Fund Separation Theorem.

**AB** This paper examines popular advice on portfolio allocation among cash, bonds, and stocks. It documents that this advice is inconsistent with the mutual-fund separation theorem, which states that all investors should hold the same composition of risky assets. In contrast to the theorem, popular advisors recommend that aggressive investors hold a lower ratio of bonds to stocks than conservative investors. The paper explores various possible explanations of this puzzle. It concludes that the portfolio recommendations can be explained if popular advisors base their advice on the unconditional distribution of nominal returns. It also finds that the cost of this money illusion is small, as measured by the distance of the recommended portfolios from the mean-variance efficient frontiers.

#### Carlin, Wendy

**PD** November 1993. **TI** Privatization and Deindustrialization in East Germany. **AA** University College London. **SR** University College London Discussion Paper: 93-16; Department of Economics, University College London, Gower Street, London WC1E 6BT, ENGLAND. **PG** 29. **PR** 3.00 pounds; checks payable to Department of Economics, University College London. **JE** L33, C31. **KW** East Germany. Privatization. Wage Subsidies. Industrialization.

**AB** This paper takes as its starting point two striking features of the transition of the enterprise sector in the former GDR: the rapid pace of privatization and the dramatic shrinkage of employment in industry. The aim of the paper is to explore the relationship between privatization and employment shrinkage.

Privatization has been carried out by the Treuhandanstalt (THA) agency and the great majority of privatization (measured by employment) has taken place according to the THA's basic method: sale to a western firm, usually a West German one. The bulk of employment shedding has occurred before privatization (i.e., under THA ownership). Two reasons for labor-shedding are identified: to create salable units and to control the THA's deficit. It is argued in the paper that rapid privatization according to the THA's basic model required rapid labor shedding. That the employment loss cannot be attributed solely to high wages is demonstrated by the substantial employment subsidies provided by the THA as a discount on the purchase price of an enterprise. The second source of labor shedding was associated with a passive form of restructuring not directly connected with the privatization process. Jobs were cut so as to control the losses of THA firms. The inconsistency from society's viewpoint of a policy which results in the use of a shadow price of labor in privatization negotiations but the market price in the THA's day-to-day management decisions is highlighted. One policy implication is that a wage subsidy would have been appropriate in East Germany not as a method of speeding up privatization as argued by Akerlof et al. (1991) but as a way of controlling the process of deindustrialization. An explanation for the THA's excessive reliance on the sale of enterprises to Western companies is suggested and their belated attempts to establish alternative methods are evaluated.

**PD** April 1994. **TI** The Financial System in the Transition: The Special Case of East Germany. **AU** Carlin, Wendy; Richthofen, Peter. **AA** University College London. **SR** University College London Discussion Paper: 94-06; Department of Economics, University College London, Gower Street, London WC1E 6BT, ENGLAND. **PG** 25. **PR** 3.00 pounds; checks payable to Department of Economics, University College London. **JE** O16, G21, G28. **KW** East Germany. Financial System. Transition. Banks.

**AB** The aim of this paper is to examine the impact of the German financial system on the transition of the former GDR economy. East Germany has experienced not simply the rapid introduction of an efficient banking system but of a financial system with quite specific features of an "insider" type, as compared with the "outsider" system to be found in the U.S. or UK. The role played by the financial system in supporting West Germany's high wage economy is highlighted--in contrast to the recent work by Edwards and Fischer (1993) which seeks to downplay differences between German and UK banks. The paper sets out the successive stages of involvement of the banks in the transition and addresses the question of whether the German financial system will hinder or promote economic development in East Germany. Two potential problems are identified: the Mezzogiorno and network problems. Comparison with the Italian Mezzogiorno and the role of the financial system there suggests that the institutional structures in East Germany are clearly superior and it is unlikely to suffer from a direct contribution of the financial system to its productivity problem. Particular attention is paid to the role of the government development bank, the Kreditanstalt für Wiederaufbau. Solving the network problem is shown to be more problematic.

#### Carlino, Gerald

**PD** October 1994. **TI** Does Monetary Policy Have Differential Regional Effects? **AU** Carlino, Gerald; DeFina,

Robert. AA Carlino: Federal Reserve Bank of Philadelphia. DeFina: Villanova University. SR Federal Reserve Bank of Philadelphia Research Working Paper: 94-23; Working Papers, Department of Research, Federal Reserve Bank of Philadelphia, 10 Independence Mall, Philadelphia, PA 19106. PG 15. PR no charge except overseas airmail, \$3.00; checks/money orders in U.S. funds payable to Federal Reserve Bank of Philadelphia. JE E52, E58, C22, C32. KW Time-Series Analysis. Monetary Policy. VAR.

AB This paper uses time-series techniques to examine whether monetary policy has similar effects across regions in the United States. The study examines quarterly data for the period 1958:1 to 1992:4 for the eight Bureau of Economic Analysis (BEA) regions. Impulse response functions and variance decompositions from an estimated structural vector autoregression reveal a core of regions--New England, Mideast, Plains, Southeast, and Far West--that respond to monetary policy changes in ways that closely approximate the U.S. average response. Of the three noncore regions, one (Great Lakes) is noticeably more sensitive to monetary policy changes, and two (Southwest and Rocky Mountains) are found to be much less sensitive.

#### Carmichael, Benoit

TI Bayesian Evaluation of Preference Specifications. AU Gordon, Stephen F.; Samson, Lucie; Carmichael, Benoit.

#### Cashin, Paul

PD August 1994. TI Government Spending, Taxes, and Economic Growth. AA International Monetary Fund. SR International Monetary Fund Working Paper: WP/94/92; International Monetary Fund, 700 19th Street, Washington, DC 20431. PG 22. PR not available. JE E62, O41. KW Endogenous Growth. Fiscal Policy. Taxation.

AB This paper develops an endogenous growth model of the influence of public investment, public transfers, and distortionary taxation on the rate of economic growth. The growth-enhancing effects of investment in public capital and transfer payments are modeled, as is the growth-inhibiting influence of the levying of distortionary taxes which are used to fund such expenditure. The theoretical implications of the model are then tested with data from 23 developed countries between 1971 and 1988, and time series-cross sectional results are obtained which support the proposed influence of the public finance variables on economic growth.

#### Casirta, Maurizio

TI Provisional Equilibrium and Macroeconomic Theory. AU Chick, Victoria; Casirta, Maurizio.

#### Cassard, Marcel

PD September 1994. TI The Role of Offshore Centers in International Financial Intermediation. AA International Monetary Fund. SR International Monetary Fund Working Paper: WP/94/107; International Monetary Fund, 700 19th Street, Washington, DC 20431. PG 29. PR not available. JE F33, G15. KW International Finance. Offshore Markets.

AB The paper focuses on the role of offshore centers and markets in international finance during the past two decades and the migration of financial activity from the major financial centers to these offshore markets. The paper examines the prospects of offshore centers in view of the convergence of

fiscal and regulatory regimes of offshore and domestic financial centers in recent years, the greater involvement of banks in derivative finance at the expense of the traditional offshore interbank markets, and the increased concentration of financial activity in the major financial centers.

#### Cassiman, Bruno

PD October 1994. TI Research Joint Ventures and Optimal R&D Policy with Asymmetric Information. AA Northwestern University. SR Northwestern University Center for Mathematical Studies in Economics and Management Science Discussion Paper: 1105; Northwestern University, 2001 Sheridan Road, 3-014 Leverone Hall, Evanston, IL 60208-2014. PG 27. PR \$3.00 in U.S. and Canada; \$5.00 via international mail; \$2.00 for local Northwestern faculty/students. JE D82, L51. KW R&D Policy. Research Joint Ventures. Asymmetric Information.

AB Research joint ventures and subsidies are important R&D policy instruments. The regulator, however, is unlikely to know all the relevant information to regulate R&D optimally. The extent to which there are appropriability problems is one such variable that is private information to the firms within the industry. In a duopoly setting we analyze the characteristics of a first-best and second-best R&D policy where the government can either allow research joint ventures or not and give lump-sum subsidies to the parties involved. The second-best R&D policy improves upon the policy of an unsophisticated government by integrating reports of the firms on their spillovers and the correlation between the R&D spillovers of the firms into its formulation.

#### Chadha, Bankim

PD August 1994. TI Are Prices Countercyclical? Evidence From the G-7. AU Chadha, Bankim; Prasad, Eswar. AA International Monetary Fund. SR International Monetary Fund Working Paper: WP/94/91; International Monetary Fund, 700 19th Street, Washington, DC 20431. PG 10. PR not available. JE E31, E32. KW Price Level. Business Cycle.

AB This paper re-examines the cyclical behavior of prices using postwar quarterly data for the G-7. We confirm recent evidence that the price level is countercyclical. However, we find strong evidence that the inflation rate is procyclical in our sample. Our results show the importance of making a clear distinction between inflation and the cyclical component of the price level when reporting and interpreting stylized facts regarding business cycles.

PD September 1994. TI Disequilibrium in the Labor Market in South Africa. AA International Monetary Fund. SR International Monetary Fund Working Paper: WP/94/108; International Monetary Fund, 700 19th Street, Washington, DC 20431. PG 22. PR not available. JE E24, J23, J31. KW Labor Market. Unemployment. South Africa.

AB Unemployment in South Africa is decomposed into a cyclical and a structural component. The estimates suggest that unemployment is largely structural. Alternative explanations for the persistence of deviations of market wages from full-employment levels are examined. Three models that are empirically capable of generating the observed wage and employment gaps are presented. The predictions of the models for wages and employment are discussed in light of recent and prospective developments in South Africa.

**Chang, P.H. Kevin**

TI Realignment Risk in the Exchange Rate Mechanism: Evidence From Pound- Mark Cross-Rate Options. AU Campa, Jose M.; Chang, P.H. Kevin.

**Chatterjee, Satyajit**

PD October 1994. TI Money and Finance in a Model of Costly Commitment. AU Chatterjee, Satyajit; Corbae, Dean. AA Chatterjee: Federal Reserve Bank of Philadelphia. Corbae: University of Iowa. SR Federal Reserve Bank of Philadelphia Research Working Paper: 94-25; Working Papers, Department of Research, Federal Reserve Bank of Philadelphia, 10 Independence Mall, Philadelphia, PA 19106. PG 29. PR no charge except overseas airmail, \$3.00; checks/money orders in U.S. funds payable to Federal Reserve Bank of Philadelphia. JE D52, D91, E44, G12. KW Equilibrium Allocation. Asset Pricing. Financial Development.

AB We examine equilibrium allocations and prices in a non-stochastic, infinite horizon, heterogeneous agent model in which expenditure on financial contracting services is necessary to ensure commitment in intertemporal trade. When commitment is costless, the equilibrium allocation is equivalent to that from an Arrow-Debreu world. When commitment is prohibitively expensive, the allocation is similar to the Townsend monetary equilibrium. We use numerical examples to study the consequences of costly commitment for co-existence of money and credit, asset pricing, welfare implications of currency and variations in its growth rate, and the relationships between income and financial development.

**Chemmanur, Thomas**

PD March 1994. TI Asymmetric Information, Corporate Myopia, and Implications for Capital Gains Tax Rate. AU Chemmanur, Thomas; Ravid, S. Abraham. AA Chemmanur: Columbia University. Ravid: Rutgers University and Haifa University. SR Columbia PaineWebber Working Paper Series in Money, Economics and Finance: PW-94-11; PaineWebber Series, 6N Uris Hall, Columbia University, New York, NY 10027. PG 21. PR \$5.00 academics and non-profit institutions; \$6.00 corporations (add \$1.00 outside U.S., Canada and Puerto Rico). JE G12, G14, G18, G24, G28. KW Capital Gains. Equity. Myopia. Taxation.

AB We develop a model of corporate myopia in which the interaction between asymmetric information and short-term trading by the firm's equity holders induces firm managers to undertake short-term projects rather than long-term projects, which are intrinsically more valuable. In this setting, we analyze the impact of a reduction in the capital gains tax rate on project selection. We show that a capital gains tax cut for investors who hold equity in the firm beyond a certain length of time can induce optimal project selection by firm managers; an across-the-board tax cut, on the other hand, has no such impact. We characterize the long-term capital gains tax rate which eliminates corporate myopia. We demonstrate that a long-term capital gains tax cut does not create a bias toward inefficient long-term projects in situations where it is the short-term project that is intrinsically more valuable. We further show that, under certain conditions, reducing the long-term capital gains tax rate to the level required to eliminate myopic investment behavior can also lead to an increase in government tax revenues.

**Chen, Ming-Jer**

PD June 1994. TI Speed, Stealth, and Selective Attack: How Small Firms Differ From Large Firms in Competitive Behavior. AU Chen, Ming-Jer; Hambrick, Donald. AA Columbia University. SR Columbia PaineWebber Working Paper Series in Money, Economics and Finance: PW-94-13; PaineWebber Series, 6N Uris Hall, Columbia University, New York, NY 10027. PG 31. PR \$5.00 academics and non-profit institutions; \$6.00 corporations (add \$1.00 outside U.S., Canada and Puerto Rico). JE L11. KW Industrial Organization.

AB This study examines how small firms differ in their competitive behaviors from their large rivals in an industry, and explores the implications of these differences for business performance. Small firms hypothesized to differ from large firms along a set of attributes associated with competitive actions and responses in day-to-day market competition. The predicted differences were supported by data on competitive moves and countermoves exchanged by major U.S. airlines. Small airlines tend to be more active in initiating competitive challenges; in executing their actions they are speedy but low key, even secretive. Small firms are also less responsive--in terms of likelihood of response and speed--when attacked. And, contrary to expectations, the responses of small airlines are more visible than those of their larger opponents. The best performing small and large airlines were found to follow the typical small and large firm behaviors, respectively; deviations from the group norm tend to hurt performance.

PD June 1994. TI Rethinking Competitor Analysis and Competition. AA Columbia University. SR Columbia PaineWebber Working Paper Series in Money, Economics and Finance: PW-94-14; PaineWebber Series, 6N Uris Hall, Columbia University, New York, NY 10027. PG not available. PR \$5.00 academics and non-profit institutions; \$6.00 corporations (add \$1.00 outside U.S., Canada and Puerto Rico). JE L10. KW Competition.

AB This paper examines an unexplored issue in competitor analysis and inter-firm competition: the conceptualization and assessment of competitive intensity imposed on a firm by various competitors within an industry. At the conceptual level, the paper refines the concept of "competitor," emphasizing the significance of the market context in which firms compete. Competitive intensity between a pair of firms is conceptualized as a function of both the commonality of their market portfolios and the similarity of their strategic profiles. A number of propositions are offered, using market commonality and strategic similarity to predict competitive behavior. Measures of these two constructs are also developed and applied to map competitors in the airline industry. These measures were empirically validated by a survey of competitive intensity provided by key informants in the industry. Research and practical implications are discussed.

**Chichilnisky, Graciela**

PD July 1993. TI Sustainable Development and Social Choice. AA Columbia University. SR Columbia PaineWebber Working Paper Series in Money, Economics and Finance: PW-94-02; PaineWebber Series, 6N Uris Hall, Columbia University, New York, NY 10027. PG 18. PR \$5.00 academics and non-profit institutions; \$6.00 corporations (add \$1.00 outside U.S., Canada and Puerto Rico). JE D71, D78, O10. KW Growth. Social Choice. Welfare.

AB We propose axioms that capture the idea of sustainable

development and derive the welfare criterion that they imply. The main axioms are reminiscent of those of social choice: they require that neither the present nor the future should play a dictatorial role. We show that there exist sustainable preferences, which satisfy all our axioms. They exhibit sensitivity to the present and to the long-run future, and specify trade-offs between them. We examine other welfare criteria which are generally utilized: discounted utility, lim inf, long run averages, overtaking and catching-up criteria, Ramsey's criterion, Rawlsian rules, and the criterion of satisfaction of basic needs, and find that none satisfies our axioms. Theorem 1 gives a characterization of all sustainable preferences. Theorem 2 shows that in general sustainable optimal paths cannot be approximated by paths which approximate discounted optima. Paths which maximize the present value under a standard price system may fail to reach optimal sustainable welfare levels, so the two criteria can give rise to different value systems.

**PD** November 1993. **TI** International Emission Permits: Equity and Efficiency. **AU** Chichilnisky, Graciela; Heal, Geoffrey; Starrett, David. **AA** Chichilnisky and Heal: Columbia University. Starrett: Stanford University. **SR** Columbia PaineWebber Working Paper Series in Money, Economics and Finance: PW-94-03; PaineWebber Series, 6N Uris Hall, Columbia University, New York, NY 10027. **PG** 14. **PR** \$5.00 academics and non-profit institutions; \$6.00 corporations (add \$1.00 outside U.S., Canada and Puerto Rico). **JE** Q02, H04. **KW** Carbon Dioxide. Environment. Global Warming. Emissions. Emission Permits. Tradeable Permits. Public Goods.

**AB** Not all possible distributions of a given total of emission permits are compatible with the attainment of first-best Pareto efficiency. In fact, of the infinitely many ways of distributing a given total of permits between a fixed number of parties, only a finite number can lead to efficiency. We can therefore evaluate permit allocations not only in terms of their equity, but also in terms of their efficiency. If there are no other redistributive instruments in the policy environment, the traditional orthogonality of equity and efficiency does not hold here. This has important implications for arguments about the initial international distribution of entitlements to product carbon dioxide.

**PD** December 1993. **TI** Options Values and Endogenous Uncertainty in ESOPs, MBOs and Asset- Backed Loans. **AU** Chichilnisky, Graciela; Heal, Geoffrey; Tsomocos, D. P. **AA** Columbia University. **SR** Columbia PaineWebber Working Paper Series in Money, Economics and Finance: PW-94-01; PaineWebber Series, 6N Uris Hall, Columbia University, New York, NY 10027. **PG** 9. **PR** \$5.00 academics and non-profit institutions; \$6.00 corporations (add \$1.00 outside U.S., Canada and Puerto Rico). **JE** G12. **KW** Debt. Equity. ESOP. Finance. MBO.

**AB** We consider contracts to purchase assets by means of streams of payments over time, with the asset as security. These give the purchaser an option not present if all payment is made up front, the option of stopping payments and delivering the asset in satisfaction of the remaining debt. We argue that the value inherent in such options explains the attractions of asset-backed loans, employee stock option plans and MBOs.

**PD** December 1993. **TI** Price Uncertainty and Derivative Securities in General Equilibrium. **AU** Chichilnisky, Graciela; Dutta, J.; Heal, Geoffrey. **AA** Chichilnisky and Heal: Columbia University. Dutta: Cambridge University.

**SR** Columbia PaineWebber Working Paper Series in Money, Economics and Finance: PW-94-05; PaineWebber Series, 6N Uris Hall, Columbia University, New York, NY 10027. **PG** 14. **PR** \$5.00 academics and non-profit institutions; \$6.00 corporations (add \$1.00 outside U.S., Canada and Puerto Rico). **JE** D80, G10, G13, G22. **KW** Endogenous Uncertainty. Price Uncertainty. Derivative Securities. Index Securities. Multiple Equilibria.

**AB** An exchange economy has a finite number of equilibrium prices. Traders know the set of equilibria, but not which price will prevail. To insure against unfavorable outcomes, they trade on markets for commodities contingent on the equilibrium price vector. These markets allow traders to insure fully against the risk stemming from uncertainty about prices. However, they introduce further uncertainty because there may be several equilibrium prices for price-contingent commodities. The introduction of higher-order derivative products removes this uncertainty, but in turn introduces uncertainty about the prices of these products. This process converges in a finite number of steps to a unique fully-insured Pareto efficient allocation. The introduction of derivative price-contingent securities removes all uncertainty associated with inability to predict equilibrium prices. We thus provide a mechanism for resolving indeterminacy in economies with multiple equilibria and give an important resource-allocation role to derivative securities.

**TI** The Green Golden Rule and Sustainable Growth. **AU** Beltratti, Andrea; Chichilnisky, Graciela; Heal, Geoffrey.

**PD** January 1994. **TI** Chaotic Price Dynamics and Increasing Returns. **AU** Chichilnisky, Graciela; Heal, Geoffrey; Lin, Yun. **AA** Columbia University. **SR** Columbia PaineWebber Working Paper Series in Money, Economics and Finance: PW-94-07; PaineWebber Series, 6N Uris Hall, Columbia University, New York, NY 10027. **PG** 11. **PR** \$5.00 academics and non-profit institutions; \$6.00 corporations (add \$1.00 outside U.S., Canada and Puerto Rico). **JE** C62, D50, E24. **KW** Chaos. Discontinuous. Disequilibrium. Phillips Curve. Employment.

**AB** We study the dynamics of prices adjusting according to supply and demand in economies with increasing returns to scale. We establish the existence of a globally attracting set of prices, containing a stable disequilibrium price, within which the motion of the system is chaotic. This property holds for any step size in the price adjustment process if consumption and leisure are complementary, and otherwise as long as the step size exceeds a minimum. Long-run statistical properties of the system's behavior in this set are described by an ergodic measure. Walrasian price dynamics drive the system into this region, and then chaotic motion takes over. On average according to this measure there is excess supply. We suggest possible empirical implications of our analysis, particularly with respect to the relationship between wages changes and the demand for labor, the so-called Phillips curve.

**PD** January 1994. **TI** Property Rights and Returns to Scale: Patents, Firms and Market Failure. **AU** Chichilnisky, Graciela; Heal, Geoffrey; Pagano, Ugo. **AA** Chichilnisky and Heal: Columbia University. Pagano: University of Siena. **SR** Columbia PaineWebber Working Paper Series in Money, Economics and Finance: PW-94-08; PaineWebber Series, 6N Uris Hall, Columbia University, New York, NY 10027. **PG** 10. **PR** \$5.00 academics and non-profit institutions; \$6.00 corporations (add \$1.00 outside U.S., Canada and Puerto Rico). **JE** D23, D60. **KW** Decreasing Costs. Increasing

Returns. Market Failure. Property Rights.

**AB** Increasing returns are generally thought to be equivalent to decreasing costs. In fact the nature of returns to scale in production has no implications for the relationship of costs to output. Increasing returns in the production technology leads to decreasing costs only because of market failures. The cost-returns to scale relationship depends upon the nature of property rights and the completeness or incompleteness of markets. Non-constant returns to scale implies externalities between the production of earlier and later units of a product: patents provide a mechanism for internalizing these externalities, though possibly at a high social cost.

### Chick, Victoria

**PD** September 1994. **TI** Provisional Equilibrium and Macroeconomic Theory. **AU** Chick, Victoria; Casirta, Maurizio. **AA** Chick: University College London. Casirta: University of Catania. **SR** University College London Discussion Paper: 94-09; Department of Economics, University College London, Gower Street, London WC1E 6BT, ENGLAND. **PG** 15. **PR** 3.00 pounds; checks payable to Department of Economics, University College London. **JE** B41, C51, E12. **KW** Equilibrium. Evolution. Marshall. Keynes.

**AB** Equilibrium is a central concept in economics. Yet, central though it is, the term has many different definitions. This paper presents a dichotomy between classes of equilibria which we call final equilibria and provisional equilibria. Final equilibria are those after which the economy may replicate its activities, but there are no further changes. It is a class of teleological positions. Provisional equilibria serve a particular, limited theoretical purpose. We argue that provisional equilibria are consistent with innovation, learning, and evolution. Our purpose in this paper is to bring the distinction between final and provisional equilibrium to conscious attention and to defend provisional equilibrium and explore its properties and uses. The paper gives several examples of each type of equilibrium and its relation to change.

### Chirinko, Robert S.

**PD** August 1994. **TI** Finance Constraints, Liquidity, and Investment Spending: Cross-Country Evidence. **AA** Emory University. **SR** Federal Reserve Bank of Kansas City Research Working Paper: 94-05; Research Division, Federal Reserve Bank of Kansas City, 925 Grand Blvd., Kansas City, MO 64198. **PG** 29. **PR** no charge. **JE** D92, E22, E44. **KW** Investments. Liquidity. Financial Structure.

**AB** Theoretical and empirical models of investment spending have treated financial structure very differently. Recent research had begun to narrow this gap and, based on developments in the economics of information, has drawn theoretical links between investment spending and the frictions and constraints in financial markets. Furthermore, the sensitivity of investment to liquidity and other financial variables has been documented empirically for several industrialized countries. Despite this progress, the theoretical advances have not been exploited fully in econometric work, and questions remain concerning the interpretation of empirical results. To continue to narrow the gap between theoretical and empirical investment models, this paper studies finance constraints in a formal framework, explores their impact on the specification of investment equations, and reevaluates previous empirical work for several countries in light of this new model.

While this reevaluation provides some support for the importance of finance constraints, it tempers previous conclusions, and suggests directions for future research.

### Cho, Dongchul

**TI** The Predictive Ability of Several Models of Exchange Rate Volatility. **AU** West, Kenneth D.; Cho, Dongchul.

### Chou, Ray Y.

**PD** August 1994. **TI** Cointegration of International Stock Market Indices. **AU** Chou, Ray Y.; Ng, Victor K.; Pi, Lynn K. **AA** Chou: Georgia Institute of Technology. Ng: International Monetary Fund. Pi: California State University at Hayward. **SR** International Monetary Fund Working Paper: WP/94/94; International Monetary Fund, 700 19th Street, Washington, DC 20431. **PG** 8. **PR** not available. **JE** G12, G15, C32. **KW** Stock Market. Asset Pricing. Cointegration.

**AB** In this paper, we derive evidence on the integration of international stock markets from the cointegration properties of international stock market prices. Using the multivariate cointegration test of Johansen, we find that the set of six country stock price indices, including that of the United States, Canada, the United Kingdom, France, Germany, and Japan are cointegrated. The results suggest that there are long-run equilibrium relationships among the stock market prices. Subsample and subgroup analyses also indicate that the cointegration relationships have become stronger over time. This is consistent with greater stock market integration amid the increasing liberalization and globalization of capital markets.

### Christiano, Lawrence

**PD** May 1994. **TI** Algorithms for Solving Dynamic Models With Occasionally Binding Constraints. **AU** Christiano, Lawrence; Fisher, Jonas D. M. **AA** Christiano: Northwestern University, National Bureau of Economic Research, Federal Reserve Bank of Chicago, and Federal Reserve Bank of Minneapolis. Fisher: University of Western Ontario. **SR** Federal Reserve Bank of Minneapolis Staff Report: 171; Research Department, Federal Reserve Bank of Minneapolis, 250 Marquette Ave., Minneapolis, MN 55401. **PG** 36. **PR** no charge. **JE** C63, C68, C88. **KW** Model Solution. General Equilibrium. Computation. Optimization.

**AB** We describe several methods for approximating the solution to a model in which inequality constraints occasionally bind, and we compare their performance. We apply the methods to a particular model economy which satisfies two criteria: It is similar to the type of model used in actual research applications, and it is sufficiently simple that we can compute what we presume is virtually the exact solution. We have two results. First, all the algorithms are reasonably accurate. Second, on the basis of speed, accuracy, and convenience of implementation, one algorithm dominates the rest. We show how to implement this algorithm in a general multidimensional setting, and discuss the likelihood that the results based on our example economy generalize.

### Chu, Ke-young

**PD** June 1994. **TI** Output Decline and Government Expenditures in European Transition Economies. **AU** Chu, Ke-young; Schwartz, Gerd. **AA** International Monetary

Fund. SR International Monetary Fund Working Paper: WP/94/68; International Monetary Fund, 700 19th Street, Washington, DC 20431. PG 23. PR not available. JE E23, H61, H50, E62. KW Government Expenditure. Production. Budget Policy.

AB This paper discusses the role of government expenditure policies in the decline in aggregate output in European transition economies. It is argued that there is little evidence for the hypothesis that more expansionary expenditure policies would have helped to mitigate the output decline. While measurement problems allow for very preliminary conclusions, it appears that government expenditures were, generally, not a binding constraint for output. In those cases where it could be argued that government expenditures were a binding constraint, they were usually not the only one. Government expenditure levels still remain on the high side, at least when compared with European market-based economies, and there exists few reasons for pursuing expansionary expenditure policies to lift European transition economies out of the "transitional recession." While raising expenditure levels per se is an unappealing policy choice, a further reordering of expenditure priorities is desirable. In particular, increases in the share of government expenditures on capital--human and physical--are needed to improve long-run output potential.

#### Chung, Tai-Yeong

PD October 1994. TI Commitment Through Specific Investment in Contractual Relationships. AA University of Western Ontario. SR University of Western Ontario Department of Economics Research Report: 9420; Department of Economics, Social Sciences Center, University of Western Ontario, London, Ontario, CANADA N6A 5C2. PG 25. PR \$10.00. JE C71, D21. KW Principal-Agent. Commitment Device. Specific Investment. Incomplete Contracts.

AB The purpose of this article is to show that specific investments made by the parties to a contract can be an effective device for committing themselves. In many contractual relationships, the parties make investments that are to some extent relationship-specific; that is, once made, they have a much higher value inside the relationship than outside. The basic situation considered in this article is one in which a seller makes a contract with a buyer for the performance of a service. Once the contract is made, the seller may make a specific investment that reduces the cost of performance. Consider the case in which an opportunity arises that makes it efficient to breach the contract--for instance, the appearance of a new buyer (a third party) with a higher valuation for the seller's performance. The original contracting parties are, in general, unable to capture the entire surplus from the breach; the new buyer will typically be able to enjoy some rents from the new bargain with the seller. It is shown that when the third party has some negotiation power, the seller has an incentive to make a specific investment that exceeds the socially efficient level in order to extract the third party's rent. Overinvestment on specific assets serves to improve the seller's bargaining position vis-a-vis the third party.

PD November 1994. TI Settlement of Litigation Under Rule 68: An Economic Analysis. AA University of Western Ontario. SR University of Western Ontario Department of Economics Research Report: 9422; Department of Economics, Social Sciences Center, University of Western Ontario, London, Ontario, CANADA N6A 5C2. PG 32.

PR \$10.00. JE K41. KW Dominated Offers. Settlement Range. Litigation.

AB The objective of this article is to advance our understanding of the effects of Rule 68 by investigating parties' incentives to make and accept an offer in identifying settlement possibilities under the rule. An economic analysis is provided (i) to show that the conventional settlement range is inadequate in analyzing the effects of Rule 68, (ii) to present a new definition of the settlement range that is adequate for analyzing the effects of Rule 68, and (iii) to propose a revision of Rule 68 to encourage settlements of litigation, and examine its implications.

#### Churchill, Neil C.

TI Stages of Small Business Growth Revisited: Insights Into Growth Path and Leadership/Management Skills in Low- and High-Growth Companies. AU Eggers, John H.; Leahy, Kim T.; Churchill, Neil C.

#### Clark, Todd E.

PD August 1994. TI A Comparison of Two Approaches to Measuring Common and Idiosyncratic Components in Sets of Time Series Variables. AA Federal Reserve Bank of Kansas City. SR Federal Reserve Bank of Kansas City Research Working Paper: 94-04; Research Division, Federal Reserve Bank of Kansas City, 925 Grand Blvd., Kansas City, MO 64198. PG 16. PR no charge. JE C32, E32. KW Time-Series Analysis. VAR. Business Cycles. Econometric Models.

AB This study compares two frequently used methods of distinguishing common and idiosyncratic components in a set of time series variables: the VAR/factor model and dynamic index strategies. It establishes a basic structural link between the models, compares empirical estimates of the models, and then uses simulations to further compare the models. This analysis shows that: (1) despite an important difference in structure, the two approaches yield broadly similar estimates; and (2) the VAR/factor model is less subject to misspecification bias.

#### Clements, Nancy

PD January 1994. TI Making the Most Out of Social Experiments: Reducing the Intrinsic Uncertainty in Evidence From Randomized Trials With an Application to the National JTPA Experiment. AU Clements, Nancy; Smith, Jeffrey; Heckman, James J. AA Clements and Smith: University of Chicago. Heckman: University of Chicago and National Bureau of Economic Research. SR National Bureau of Economic Research Technical Paper: 149; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge MA 02138. PG not available. PR \$5.00. JE D11, D12, C91. KW Social Experiments. Program Impacts.

AB This paper demonstrates that even under ideal conditions, social experiments in general only uniquely determine the mean impacts of programs but not the median or the distribution of program impacts. The conventional common parameter evaluation model widely used in econometrics is one case where experiments uniquely determine joint the distribution of program impacts. That model assumes that everyone responds to a social program in the same way. Allowing for heterogeneous responses to programs, the data from social experiments are consistent with a wide variety of alternative impact distributions. We discuss why it is interesting

to know the distribution of program impacts. We propose and implement a variety of different ways of incorporating prior information to reduce the wide variability intrinsic in experimental data. Robust Bayesian methods and deconvolution methods are developed and applied. We analyze earnings and employment data on adult women from a recent social experiment. In order to produce plausible impact distributions, it is necessary to impose strong positive dependence between outcomes in the treatment and in the control distributions. Such dependence is an outcome of certain optimizing models of the program participation decision.

#### Clifton, Eric V.

PD July 1994. TI Financial Liberalization in Israel. AA International Monetary Fund. SR International Monetary Fund Papers on Policy Analysis and Assessment: PPAA/94/14; International Monetary Fund, Washington, DC 20431. PG 17. PR not available. JE G18, N25. KW Israel. Financial Markets. Foreign Exchange.

AB Subsequent to the Economic Stabilization Plan of 1985 Israel began to undertake a liberalization of its domestic financial markets and to reduce the degree of foreign exchange control so as to promote the integration of domestic and international financial markets. This paper briefly reviews this program which has included, inter alia, initiatives to deregulate the banking sector, to reduce the Government's ownership share of the major commercial banks, to address concerns about the operation of provident and mutual funds, to remove restrictions on external current account transactions, and to reduce capital controls.

#### Coady, David P.

PD August 1993. TI An Empirical Analysis of Fertilizer Use in Pakistan. AA University College London. SR University College London Discussion Paper: 93-12; Department of Economics, University College London, Gower Street, London WC1E 6BT, ENGLAND. PG 44. PR 3.00 pounds; checks payable to Department of Economics, University College London. JE C34, D13, Q11, Q12. KW Agriculture. Pakistan. Chemical Fertilizer. Farm Size. Uncertainty.

AB One of the stylized facts in developing countries is the wide variation in agricultural per acre input and output levels across farm households. Here we focus on the variation in the level of chemical fertilizer applied in particular to high-yielding wheat. The model used to explain the variation in fertilizer input across farms incorporates the process by which "zeroes" are generated, in particular differentiating between households who do not apply because of "lack of access" and those who do not apply out of choice. We find that access is positively correlated with farm size but that, among users, per acre fertilizer-input levels decrease with farm size. We explain the latter using a simple theoretical model which incorporates uncertainty. Our results suggest that although larger farms have a higher level of non-stochastic wealth which, in the presence of decreasing absolute risk aversion, has the effect of increasing fertilizer intensity with farm size, the presence of increasing relative risk aversion means that the net relationship between farm size and fertilizer intensity is negative. This latter effect appears to dominate any tendency for higher fertilizer intensity on larger farms due to better knowledge or irrigation facilities.

PD December 1993. TI Marketed Surplus of Foodgrains in Pakistan. AA University College London.

SR University College London Discussion Paper: 93-17; Department of Economics, University College London, Gower Street, London WC1E 6BT, ENGLAND. PG not available. PR 3.00 pounds; checks payable to Department of Economics, University College London. JE O12, O13, O53, Q12, Q18. KW Agriculture. Marketed Surplus. Cross-Section. Price-Elasticity.

AB In this paper we show how cross-section data can be used to identify the determinants of the marketed surplus (MS) of foodgrains. We show how agricultural household models are useful in formulating such a discussion and in getting some idea of the magnitudes of various elasticities of MS. Aggregate price elasticities are calculated for Pakistan. Using agricultural data for Pakistan for the mid 1970's we analyze the determinants of the MS of wheat across households. We argue that estimation problems imply that a reduced form approach is more fruitful and identify various other estimation problems. We also separate the effect of the explanatory variables on MS into their effects on production and consumption and suggest how our results should be interpreted.

#### Cochrane, John H.

TI By Force of Habit: A Consumption-Based Explanation of Aggregate Stock Market Behavior. AU Campbell, John Y.; Cochrane, John H.

#### Cole, Harold

PD July 1994. TI Valuation Equilibria With Clubs. AU Cole, Harold; Prescott, Edward. AA Cole: Federal Reserve Bank of Minneapolis. Prescott: University of Minnesota and Federal Reserve Bank of Minneapolis. SR Federal Reserve Bank of Minneapolis Staff Report: 174; Research Department, Federal Reserve Bank of Minneapolis, 250 Marquette Ave., Minneapolis, MN 55401. PG 34. PR no charge. JE D51, D71, H41, L11. KW Valuation Equilibria. Clubs. Lottery.

AB This paper considers model worlds in which there are a continuum of individuals who form finite sized associations to undertake joint activities. We show that if there are a finite set of types and the commodity space contains lotteries, then the classical equilibrium results on convex economies can be reinterpreted to apply. Furthermore, in this lottery economy, deterministic allocations (that is, degenerate lotteries) are generally not Pareto optimal, nor are they equilibria. In the interests of making the model seem more "natural," we show that the set of equilibria in a decentralization in which individuals first gamble over value transfers and then trade commodities in a deterministic competitive market economy are equivalent to those of our competitive economy with a lottery commodity space.

PD August 1994. TI The Role of Institutions in Reputation Models of Sovereign Debt. AU Cole, Harold; Kehoe, Patrick. AA Cole: Federal Reserve Bank of Minneapolis. Kehoe: Federal Reserve Bank of Minneapolis, University of Minnesota, and University of Pennsylvania. SR Federal Reserve Bank of Minneapolis Staff Report: 179; Research Department, Federal Reserve Bank of Minneapolis, 250 Marquette Ave., Minneapolis, MN 55401. PG 25. PR no charge. JE F33, G21, H63. KW Default. Sovereign Debt. Reputation.

AB A standard explanation for why sovereign governments repay their debts is that they must maintain a good reputation to easily borrow more. We show that the ability of reputation to



support debt depends critically on the assumptions made about institutions. At one extreme, we assume that bankers can default on payments they owe to governments. At the other, we assume that bankers are committed to honoring contracts made with governments. We show that if bankers can default, then a government gets enduring benefits from maintaining a good relationship with bankers and its reputation can support a large amount of borrowing. If, however, bankers must honor their contracts, then a government gets only transient benefits from maintaining a good relationship and its reputation can support zero borrowing.

**PD** September 1994. **TI** Default, Settlement, and Signaling: Lending Resumption in a Reputational Model of Sovereign Debt. **AU** Cole, Harold; Dow, James; English, William. **AA** Cole: Federal Reserve Bank of Minneapolis. Dow: London Business School. English: Board of Governors of the Federal Reserve System. **SR** Federal Reserve Bank of Minneapolis Staff Report: 180; Research Department, Federal Reserve Bank of Minneapolis, 250 Marquette Ave., Minneapolis, MN 55401. **PG** 21. **PR** no charge. **JE** F34, N21, N26. **KW** Sovereign Default. International Debt Settlements. Signaling.

**AB** This paper develops a simple model of sovereign debt in which defaulting nations are excluded from capital markets and regain access by making partial repayments. This is consistent with the historical evidence that defaulting countries return to international loan markets soon after a settlement, but after varying periods of exclusion.

### Cole, Nancy

**PD** July 1994. **TI** Reported Income in the NLSY: Consistency Checks and Methods for Cleaning the Data. **AU** Cole, Nancy; Currie, Janet. **AA** Cole: Abt Associates. Currie: University of California, Los Angeles and National Bureau of Economic Research. **SR** National Bureau of Economic Research Technical Paper: 160; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge MA 02138. **PG** not available. **PR** \$5.00. **JE** C42, C81, I32. **KW** Data Analysis. Aggregation. Survey Methods.

**AB** The National Longitudinal Survey of Youth collects information about over 20 separate components of respondent income. These disaggregated income components provide many opportunities to verify the consistency of the data. This note outlines procedures we have used to identify and "clean" measurement error in the disaggregated income variables. After cleaning the income data at the disaggregated level, we reconstruct the measure of "family income" and re-evaluate poverty status. While people may not agree with all of our methods, we hope that they will be of some use to other researchers. A second purpose of this note is to highlight the value of the disaggregated data, since without it, it would be impossible to improve on the reported totals. Finally, we hope that with the advent of computerized interviewing technology, checks on the internal consistency of the data of the kind that we propose may eventually be built into interviewing software, thereby improving the quality of the data collected.

### Coles, Melvyn

**PD** June 1994. **TI** Dynamic Bargaining Theory. **AU** Coles, Melvyn; Wright, Randall. **AA** Coles: University of Essex. Wright: Federal Reserve Bank of Minneapolis and University of Pennsylvania. **SR** Federal Reserve Bank of Minneapolis Staff Report: 172; Research Department, Federal

Reserve Bank of Minneapolis, 250 Marquette Ave., Minneapolis, MN 55401. **PG** 32. **PR** no charge. **JE** C78, D83, E44. **KW** Bargaining. Dynamics. Search. Monetary Economics.

**AB** The goal of this paper is to extend the analysis of strategic bargaining to nonstationary environments, where preferences or opportunities may be changing over time. We are mainly interested in equilibria where trade occurs immediately, once the agents start negotiating, but the terms of trade depend on when the negotiations begin. We characterize equilibria in terms of simple dynamical systems, and compare these outcomes with the myopic Nash bargaining solution. We illustrate the practicality of the approach with an application in monetary economics.

### Corbae, Dean

**TI** Money and Finance in a Model of Costly Commitment. **AU** Chatterjee, Satyajit; Corbae, Dean.

**TI** Endogenous Realalignments and the Sustainability of a Target Zone. **AU** Neely, Christopher J.; Corbae, Dean; Weller, Paul.

### Corbett, Charles

**PD** September 1994. **TI** An Efficient Budget Allocation Policy for Decentralisation of Responsibility for Site Decontamination Projects. **AU** Corbett, Charles; Debets, Frank; Van Wassenhove, L. N. **AA** INSEAD. **SR** INSEAD Working Papers: 94/44/TM; INSEAD, Boulevard de Constance, Fontainebleau, 77305 Cedex, FRANCE. **PG** 18. **PR** not available. **JE** C61, D73, D82, Q24. **KW** Budget Allocation. Decentralization. Site Decontamination. Mathematical Programming. Groves Mechanism.

**AB** Selection and execution of site decontamination projects is often best left to local authorities, in accordance with the subsidiarity principle, even though the budget for such projects is made available through a central authority. In this paper we suggest a practical budget allocation policy which a central authority can employ to allocate budgets to local authorities, while still optimizing the central authority's environmental objective function. The procedure is fully consistent with the principle of decentralization of responsibility for selection and execution of projects, and requires a minimum information exchange between local and central levels. Despite the information asymmetry between local and central levels, incentive compatibility problems can be (partially) prevented by choosing an appropriate evaluation mechanism. At the same time, the procedure is computationally effective and efficient, and can guarantee a fair budget allocation, making it easy to implement and politically acceptable.

### Cosse, Stephane

**TI** Economic Trends in Africa: The Economic Performance of Sub-Saharan African Countries. **AU** Dhonte, Pierre; Ballali, Daudi; Terrier, Gilbert; Cosse, Stephane.

### Cowan, Robin

**PD** November 1994. **TI** Sprayed to Death: Pest Control Strategies and Technological Lock-In. **AU** Cowan, Robin; Gunby, Philip. **AA** University of Western Ontario. **SR** University of Western Ontario Department of Economics Research Report: 9419; Department of Economics, Social Sciences Center, University of Western Ontario, London.

Ontario, CANADA N6A 5C2. PG 22. PR \$10.00. JE O33, D62, L79. KW Technological Competition. Increasing Returns. Learning.

**AB** Theoretical literature on the economics of technology has emphasized the effects on technological trajectories of positive feedbacks. In a competition among technologies that all perform a similar function, the presence of increasing returns to adoption can force all but one technology from the market. Furthermore, the victor need not be the superior technology. This paper provides an empirical study of one technological competition which illuminates this theoretical work. It uses theoretical results to explain why chemical control of agricultural pests remains the dominant technology in spite of many claims that it is inferior to its main competitor, Integrated Pest Management.

**PD** November 1994. **TI** Local Externalities and Spatial Equilibria: Technological Standardization and the Preservation of Variety. **AU** Cowan, Robin; Cowan, William. **AA** Cowan, R.: University of Western Ontario. Cowan, W.: University of Waterloo. **SR** University of Western Ontario Department of Economics Research Report: 9421; Department of Economics, Social Sciences Center, University of Western Ontario, London, Ontario, CANADA N6A 5C2. PG 15. PR \$10.00. JE O33, D62, R12. KW Externalities. Spatial Distribution. Technology. Technical Change.

**AB** In this paper we model a repeated choice problem in which agents are choosing technologies to perform tasks. Agents impose externalities on each other through their choices of technology. There are both global and local, positive and negative, externalities associated with adopting a particular technology. We analyze the spatial distribution of technology use in equilibrium. The nature of the pattern of technology use depends critically on the degree to which agents are heterogeneous in the uses to which they put the technology. There is a critical degree of heterogeneity above which there is no spatial pattern, but below which there is almost complete local standardization.

### Cowan, William

**TI** Local Externalities and Spatial Equilibria: Technological Standardization and the Preservation of Variety. **AU** Cowan, Robin; Cowan, William.

### Craig, R. Sean

**PD** September 1994. **TI** Who Will Join EMU? Impact of the Maastricht Convergence Criteria on Economic Policy Choice and Performance. **AA** Board of Governors of the Federal Reserve System. **SR** Board of Governors of the Federal Reserve System International Finance Discussion Paper: 480; Board of Governors of the Federal Reserve System, Division of International Finance, Washington, DC 20551. PG 41. PR no charge. JE F33, F41. KW European Monetary Union. Maastricht. Inflationary Bias. Fiscal Convergence Criteria.

**AB** To qualify for European Monetary Union (EMU), countries must meet convergence criteria established in the Maastricht treaty of December 1991. However, an analysis of how difficult it will be to meet the convergence criteria is not sufficient to identify the countries most likely to join EMU in 1999. This paper identifies a number of factors in addition to budget deficit reduction required to qualify for EMU such as the persistence of inflationary expectations, the variance of output shocks, the inflationary bias to monetary policy, and the

political cost to not joining EMU. Moreover, countries follow a policy rule where a large negative output shock can cause them to abandon the restrictive policies necessary to qualify for EMU and, instead, use policy for stabilization. Concern about such a policy shift could cause increases in interest rates similar to those observed during ERM crises. Data on the above factors are generally not available, except for budgetary data. However, the model shows that data on long-term interest rate differentials with Germany can serve as a measure of their influence. Two approaches, using implied forward interest rate differentials and econometric analysis, are used to evaluate the usefulness of this measure. Both support the use of long-term interest differentials. Overall, it appears likely that EMU will occur in stages as factors are relatively favorable for EMU in Denmark, France, Ireland, and the Netherlands. In contrast, for Italy and Spain, EMU appears unlikely.

### Crauwels, H. A. J.

**PD** 1994. **TI** Local Search Heuristics for Single Machine Scheduling With Batching to Minimize the Number of Late Jobs. **AU** Crauwels, H. A. J.; Potts, C. N.; Van Wassenhove, L. N. **AA** Crauwels: KIHND. Potts: University of Southampton. Van Wassenhove: INSEAD. **SR** INSEAD Working Papers: 94/45/TM; INSEAD, Boulevard de Constance, Fontainebleau, 77305 Cedex, FRANCE. PG 15. PR not available. JE D21, D83. KW Search Theory.

**AB** Local search heuristics are developed for a problem of scheduling jobs on a single machine. Jobs are partitioned into families, and a set-up time is necessary when there is a switch in processing jobs from one family to jobs of another family. The objective is to minimize the number of late jobs. Four alternative local search methods are developed: multi-start descent, simulated annealing, tabu search and a genetic algorithm. The performance of these heuristics is evaluated on a large set of test problems. The best results are obtained by the genetic algorithm; multi-start descent also performs quite well.

**PD** March 1994. **TI** Local Search Heuristics for Single Machine Tardiness Sequencing. **AU** Crauwels, H. A. J.; Potts, C. N.; Van Wassenhove, L. N. **AA** Crauwels: KIHND. Potts: University of Southampton. Van Wassenhove: INSEAD. **SR** INSEAD Working Papers: 94/52/TM; INSEAD, Boulevard de Constance, Fontainebleau, 77305 Cedex, FRANCE. PG 14. PR not available. JE G61. KW Production/Scheduling. Deterministic Single Machine. Heuristic. Local Search.

**AB** This paper presents several local search heuristics for the problem of scheduling a single machine to minimize total weighted tardiness. A genetic algorithm is developed which employs a new binary encoding scheme to represent solutions and uses a heuristic method to convert the representation into a sequence. This algorithm is compared to descent, simulated annealing and tabu search methods on a large set of test problems. The computational results indicate that tabu search performs better than the other two neighborhood search methods. However, the genetic algorithm generally produces superior solutions and it also appears to be a robust heuristic.

### Croushore, Dean

**PD** November 1994. **TI** Evaluating McCallum's Rule for Monetary Policy. **AU** Croushore, Dean; Stark, Tom. **AA** Federal Reserve Bank of Philadelphia. **SR** Federal Reserve Bank of Philadelphia Research Working Paper: 94-26; Working Papers, Department of Research, Federal Reserve

Bank of Philadelphia, 10 Independence Mall, Philadelphia, PA 19106. PG 20. PR no charge except overseas airmail, \$3.00; checks/money orders in U.S. funds payable to Federal Reserve Bank of Philadelphia. JE E23, E31, D52, E58. KW Stabilization. Monetary Policy. GDP. Inflation.

AB This paper provides new evidence on the usefulness of McCallum's proposed rule for monetary policy. The rule targets nominal GDP using the monetary base as the instrument. We analyze the rule using three very different economic models to see if the rule works well in different environments. Our results suggest that while the rule leads to lower inflation than there was historically over the last 30 years, it generates greater variability in real GDP. Further, if the same monetary response factor is used for all three models, the rule is stabilizing in some models and destabilizing in others.

### Crownover, Collin

PD December 1994. TI Testing for Absolute Purchasing Power Parity. AU Crownover, Collin; Pippenger, John; Steigerwald, Douglas G. AA University of California, Santa Barbara. SR University of California, Santa Barbara Working Papers in Economics: 22-94; Working Paper Coordinator, Department of Economics, University of California, Santa Barbara, CA 93106. PG 9. PR no charge. JE F31, C22. KW Purchasing Power Parity. Fully-Modified Estimators.

AB Purchasing power parity (PPP) is an equilibrium condition equating the nominal exchange rate between two countries with the relative price of an identical bundle of goods in each country. Previous time-series researchers use price indices to study PPP, so they test relative PPP. We use new data that measures price levels, so we test absolute PPP. Price levels provide a test of absolute PPP because, unlike price indices, price levels do not contain a base period in which the nominal exchange rate equals the price ratio by construction. We find support for absolute PPP.

### Cunningham, William

TI Delta-Matroids. Jump Systems and Delta-Submodular Polyhedra. AU Bouchet, Andre; Cunningham, William.

### Currie, James E.

TI The Competitive Implications of Classified Ad Pricing. AU Mulligan, James G.; Currie, James E.

### Currie, Janet

TI Reported Income in the NLSY: Consistency Checks and Methods for Cleaning the Data. AU Cole, Nancy; Currie, Janet.

### Daianu, Daniel

PD May 1994. TI The Changing Mix of Disequilibria During Transition--A Romanian Background. AA National Bank of Romania and International Monetary Fund. SR International Monetary Fund Working Paper: WP/94/73; International Monetary Fund, 700 19th Street, Washington, DC 20431. PG 26. PR not available. JE E63, F32, F41, L52, O52. KW Stabilization Policy. Economic Transition. Europe.

AB This paper looks at the dynamics of (dis)equilibria during post-command transition. It tries to define an optimal mix between external and internal disequilibrium and to apply this concept to the analysis of the Romanian economy. The forced

adjustment of the balance of payments in the 1980's is presented as a prologue to the scrutiny of transformation policy underway; results and dilemmas of macro-stabilization are dealt with in this respect. The paper ends by providing some insights into the problems of understanding (dis)equilibria in transforming economies.

### Daniel, Joseph I.

PD August 1994. TI Congestion Pricing and Capacity of Large Hub Airports: A Bottleneck Model With Stochastic Queues. AA University of Delaware. SR University of Delaware Department of Economics Working Paper: 94-10; College of Business and Economics, Department of Economics, University of Delaware, Newark, Delaware 19716-2720. PG 43. PR not available. JE R41, L13, L93. KW Congestion Pricing. Bottleneck Model. Queuing Theory. Peak-Load Pricing. Landing Fees. Airport Capacity.

AB This paper models and estimates congestion prices and capacity for large hub airports. The model includes stochastic queues, time-varying traffic rates, and endogenous, intertemporal adjustment of traffic in response to queuing delay and fees. Relative costs of queuing and schedule delays are estimated using data from Minneapolis-St. Paul. Simulations calculate equilibrium traffic patterns, queuing delays, schedule delays, congestion fees, airport revenues, airport capacity, and efficiency gains. The paper also investigates whether a dominant airline internalizes delays its aircraft impose. It tests game-theoretic specifications with atomistic, Nash-dominant, Stackelberg-dominant, and collusive-airline traffic.

### Danthine, Jean-Pierre

PD December 1992. TI Non-Walrasian Economies. AU Danthine, Jean-Pierre; Donaldson, John B. AA Danthine: Universite de Lausanne. Donaldson: Columbia University. SR Columbia PaineWebber Working Paper Series in Money, Economics and Finance: PW-93-02; PaineWebber Series, 6N Uris Hall, Columbia University, New York, NY 10027. PG 36. PR \$5.00 academics and non-profit institutions; \$6.00 corporations (add \$1.00 outside U.S., Canada and Puerto Rico). JE E24, E32, J21. KW Labor. Real Business Cycle.

AB This paper presents the Real Business Cycle modeling perspective as providing a coherent and unbiased procedure for testing alternate views of the labor market. Two economic models are specified into which different non-Walrasian features are inserted.

PD 1993. TI Computing Equilibria of Non-Optimal Economies. AU Danthine, Jean-Pierre; Donaldson, John B. AA Danthine: Universite de Lausanne. Donaldson: Columbia University. SR Columbia PaineWebber Working Paper Series in Money, Economics and Finance: PW-93-02; PaineWebber Series, 6N Uris Hall, Columbia University, New York, NY 10027. PG 43. PR \$5.00 academics and non-profit institutions; \$6.00 corporations (add \$1.00 outside U.S., Canada and Puerto Rico). JE E32, C63, C68. KW Computing. Dynamic Equilibrium. Non-Optimality.

AB This paper surveys the different approaches that have been proposed for the computation of dynamic equilibria of economies for which the equilibrium is not a Pareto-optimum. The alternative methods discussed are illustrated in the context of an economy with a simple tax distortion.

**Danziger, Marie A.**

**PD** September 1994. **TI** Policy Analysis Postmodernized: Some Political and Pedagogical Ramifications. **AA** Harvard University. **SR** Harvard John F. Kennedy School of Government Faculty Research Working Paper Series: R94-24; John F. Kennedy School of Government, Harvard University, 79 John F. Kennedy Street, Cambridge, MA 02138. **PG** 25. **PR** no charge. **JE** D78. **KW** Policy Analysis. Political Economy.

**AB** This paper examines the implications of postmodern deconstructive insights for the practice and teaching of policy analysis. I begin with Stanley Fish's assertion that all professional communities labor under the inescapable distortions of their own warranting assumptions. In an effort to minimize such distortion through a fresh interdisciplinary approach, I proceed to superimpose the paradigms of rhetoric and critical theory upon those ration/positivist and rhetorical/anti-positivist perspectives, between modernism and postmodernism. The paper surveys recent postmodern approaches to policy analysis that focus on the hidden ideologies embedded in professional language, theories, and modes of argumentation. The pedagogical conclusion is that students of public policy need to be made aware of two separate epistemologies: the world of external phenomena on the one hand, and the problematic language used to describe and analyze that "external" data. But I argue that it is difficult or impossible to distinguish between the two. Hence the rhetoric of policy analysis should be taught in terms of creative conflict management. Given that the key to the postmodern pursuit of analytic truth is persuasion, students must learn to play both offense and defense in the rhetorical power plays between writer/speaker and reader/listener, between policymaker and citizen.

**Daripa, Arupratan**

**PD** November 1994. **TI** A Simple Theory of Treasury Auctions. **AA** Princeton University and Columbia University. **SR** Princeton Financial Research Center Memorandum: 148; Financial Research Center, Department of Economics, Princeton University, Princeton, NJ 08544-1021. **PG** 30. **PR** \$3.00 for U.S. mailings; \$6.00 for foreign mailings. **JE** D44, E43. **KW** Treasury Securities. Common Values. Discriminatory Auction. Uniform-Price Auction.

**AB** I study a formal model of Treasury auctions incorporating some of the important institutional peculiarities and rank Treasury revenue from two different auction forms--discriminatory and uniform-price. A Treasury auction is a multi-unit common-value auction where a bid consists of multiple price-quantity pairs. In the model I present there are some bidders who are better informed about the resale price. These informed bidders form a cartel. Thus the formal structure of the model consists of a single informed bidder (the cartel), and a number of uninformed bidders. Daripa (1994) considers Nash Equilibria. Here I compare Treasury revenue across equilibria where the cartel can commit. In a uniform-price auction, the ability to commit gives the cartel the power to costlessly create an extreme winner's curse for the uninformed bidders. This leads to the main revenue ranking result--when the cartel can commit, a discriminatory auction generates more revenue than a uniform-price auction. However, if the Treasury can cancel even a single bid after the bids are submitted, a uniform-price auction reduces the market power of the cartel and generates as much revenue as a discriminatory auction. I

apply these results to gain partial understanding of the apparent "puzzle" that while in Mexico the switch to a uniform-price auction generated much higher revenues (the Mexican Treasury could cancel a few bids after submission), the recent experiment by the U.S. Treasury of using a uniform-price auction to sell certain securities seems not to have met with a similar success.

**PD** November 1994. **TI** Treasury Auctions Under Proprietary Information: A Nash Equilibrium Analysis. **AA** Princeton University and Columbia University. **SR** Princeton Financial Research Center Memorandum: 149; Financial Research Center, Department of Economics, Princeton University, Princeton, NJ 08544-1021. **PG** 11. **PR** \$3.00 for U.S. mailings; \$6.00 for foreign mailings. **JE** D44, D82, E43. **KW** Treasury Auctions. Common Values. Discriminatory Auction. Uniform-Price Auction.

**AB** A Treasury auction (T-auction) is a multi-unit common-value auction where a bidder can bid multiple price-quantity pairs. Depending on the pricing rule, a Treasury auction could be discriminatory or uniform-price. Examples of such auctions include those used for selling Treasury securities and offshore oil lease auctions. These auctions are often characterized by asymmetry in information among bidders. Engelbrecht-Wiggans, Milgrom and Weber (1983) (EMW) have studied the Nash equilibria of a single unit discriminatory auction (i.e., first price auction) with one informed and many uninformed bidders. This paper extends their analysis to discriminatory T-auctions and also provides an analysis of the equilibria under uniform-price T-auctions. I show that the analysis of EMW readily extends to a discriminatory T-auction. However, under a uniform-price T-auction all equilibria display extreme free-riding by the uninformed on the information of the informed. In the unique equilibrium outcome the informed bidder gets only an arbitrarily small rent from his information--the rest is transferred to the uninformed. Interestingly, however, the revenue to the Treasury is equivalent from the two auctions. Next I analyze the same auctions when the seller can cancel some bids (this is similar to posting a random reserve price). I show that this does not change the seller's revenue from either auction. From the bidders' point of view, however, a uniform-price T-auction looks more and more like a discriminatory T-auction as the number of bids that the seller can potentially cancel increases. Finally, I discuss the reasonableness of a static model (and the associated solution concept) to study T-auctions.

**Davies, James**

**PD** July 1994. **TI** Making Inequality Comparisons When Lorenz Curves Intersect. **AU** Davies, James; Hoy, Michael. **AA** Davies: University of Western Ontario. Hoy: University of Guelph. **SR** University of Western Ontario Department of Economics Research Report: 9414; Department of Economics, Social Sciences Center, University of Western Ontario, London, Ontario, CANADA N6A 5C2. **PG** 14. **PR** \$10.00. **JE** D31, D63. **KW** Lorenz Curve. Income Distribution. Inequality Index.

**AB** Recently theorists have paid considerable attention to the consequences of assuming aversion to downside inequality. Of greatest relevance to applied researchers, it has been shown that if the true Lorenz curves are known with certainty and cross only once, there is a straightforward method of determining when all ADI inequality indices agree. While this is a useful result, it does not help when Lorenz curves intersect more than

once. This paper makes the ADI criterion more fully operational by providing a simple procedure for establishing whether any two true distributions which cross a finite number of times can be ranked under ADI. It then illustrates the new criterion using recent family income distribution data for both Canada and the U.S., with sample distributions being treated as if true. The criterion provides rankings in some, but not all, cases of single and multiple intersecting Lorenz curves. The authors argue that even where ADI does not provide a ranking, knowing this is itself informative since it tells us that even stronger assumptions about inequality indices would have to be made in order to obtain a ranking.

#### De Gregorio, Jose

PD June 1994. TI Financial Markets and Inflation Under Imperfect Information. AU De Gregorio, Jose; Sturzenegger, Federico. AA International Monetary Fund. SR International Monetary Fund Working Paper: WP/94/63; International Monetary Fund, 700 19th Street, Washington, DC 20431. PG 15. PR not available. JE E31, E44, D24. KW Inflation. Financial Intermediaries. Firm Productivity.

AB This paper studies the effect of inflation on the operation of financial markets, and shows how the ability of financial intermediaries to distinguish among heterogeneous firms is reduced as inflation rises. This point is illustrated by presenting a simple model where inflation affects firms' productivity. In particular, productivity differentials narrow as inflation increases. This effect creates incentives for risky and less productive firms to behave as high productivity firms. At high rates of inflation this may result in financial intermediaries being unable to differentiate among customers.

TI How Does Foreign Direct Investment Affect Economic Growth? AU Borensztein, Eduardo; De Gregorio, Jose; Lee, Jong-Wha.

#### de Melo, Jaime

TI France and the CEEC's: Adjusting to Another Enlargement. AU Cadot, Olivier; de Melo, Jaime.

TI The Europe Agreements and EC-LDC Relations. AU Cadot, Olivier; de Melo, Jaime.

TI Early Trade Patterns Under the Europe Agreements: France, Germany and Italy. AU Cadot, Olivier; Faini, Riccardo; de Melo, Jaime.

#### de Meyer, Arnoud

PD September 1994. TI Manufacturing Delivers! But Will That Be Enough? AA INSEAD. SR INSEAD Working Papers: 94/50/TM; INSEAD, Boulevard de Constance, Fontainebleau, 77305 Cedex, FRANCE. PG 10. PR not available. JE F31, F32, F33. KW Manufacturing Strategy. International Manufacturing. Delivery Systems.

AB Since 1983 we have at INSEAD carried out the European Manufacturing Futures Survey. The report of the 1994 survey indicates that European manufacturers have made significant improvements compared with previous surveys in the performance of the production system. Also the reorganization of the production network, in line with the opportunities offered by the creation of a large European market, has paid off nicely. For the near future European Manufacturers will focus on the improvement of the total delivery system. Is this enough? From the survey we learn that European Manufacturers may perform well, but have perhaps an approach which is too focused on

manufacturing. They may well neglect the bundle of services in which the product has to be embedded. We have also noticed a disillusionment and neglect of process technologies.

#### Deacon, Robert T.

PD July 1994. TI The Structure of an Environmental Transaction: The Debt-for-Nature Swap. AU Deacon, Robert T.; Murphy, Paul. AA University of California, Santa Barbara. SR University of California, Santa Barbara Working Papers in Economics: 15-92; Working Paper Coordinator, Department of Economics, University of California, Santa Barbara, CA 93106. PG 27. PR no charge. JE Q23, Q28, K32. KW Debt-For-Nature. Environmental Transaction. Forestry.

AB The structure of debt-for-nature swaps and the perceived benefits to participants are examined empirically. The contracts executing debt-for-nature swaps are studied to assess the role of transaction costs in determining how these agreements are structured. The emerging contract form is a product of weak enforcement of legal claims to environmental resources in some developing countries, high costs for delineating and monitoring environmental outcomes, and nominal government ownership of the resources involved. A cross country econometric study relates the occurrence of swaps in individual countries to observed attributes of potential participants. It identifies environmental, political, and other attributes of countries that influence the likelihood of these exchanges.

PD August 1994. TI Deforestation, Investment and Political Stability. AA University of California, Santa Barbara. SR University of California, Santa Barbara Working Papers in Economics: 14-94; Working Paper Coordinator, Department of Economics, University of California, Santa Barbara, CA 93106. PG 20. PR no charge. JE Q23, Q28, N50. KW Conservation. Investment. Incentives. Political Risk. Forestry.

AB The role of political instability and insecurity regarding the future return from investment and conservation actions is examined, with emphasis on the consequences of insecurity for the conservation of forests. The data for this examination come from two very different sources. This first is historical accounts of human history and the use of forests during the last three thousand years, particularly in the Mediterranean region. The second is a data base that allows statistical analysis of deforestation rates, investment rates, and political attributes of over 100 countries. Overall, the evidence examined supports the hypothesis that volatile political institutions and repressive governments impair incentives to invest and are sources of environmental degradation.

TI Estimating the Demand for Public Goods: Comments and Extensions. AU Shapiro, Perry; Deacon, Robert T.

#### Debets, Frank

TI An Efficient Budget Allocation Policy for Decentralisation of Responsibility for Site Decontamination Projects. AU Corbett, Charles; Debets, Frank; Van Wassenhove, L. N.

#### Decressin, Jorg

PD 1994. TI Regional Labor Market Dynamics in Europe. AU Decressin, Jorg; Fata, Antonio. AA Decressin: Harvard University. Fata: INSEAD. SR INSEAD Working Papers: 94/61/EPS; INSEAD,

Boulevard de Constance, Fontainebleau, 77305 Cedex, FRANCE. PG 18. PR not available. JE F22, J21. KW Employment. Labor. Natural Rate of Unemployment. Unemployment.

AB The paper investigates regional labor markets dynamics in Europe and compares the results to those obtained for the U.S. It analyzes to what extent regional employment dynamics are common to all regions in Europe and to all states in the U.S. It finds that a larger proportion of movements in employment growth is common to all U.S. states than to all EEC regions. Next, the paper studies the adjustment mechanisms that a typical region-specific shock triggers. It shows that for Europe, in the first three years, most of the shock is absorbed by changes in the participation rate while, in the U.S., it is immediately reflected in migration. Surprisingly, in both cases, the unemployment rate plays a small role suggesting the presence of natural unemployment rates at the regional level.

#### DeFina, Robert

TI Does Monetary Policy Have Differential Regional Effects? AU Carlino, Gerald; DeFina, Robert.

#### Dekle, Robert

PD October 1994. TI Technological Progress and Endogenous Capital Depreciation: Evidence From the U.S. and Japan. AA Board of Governors of the Federal Reserve System. SR Board of Governors of the Federal Reserve System International Finance Discussion Paper: 485; Board of Governors of the Federal Reserve System, Division of International Finance, Washington, DC 20551. PG 22. PR no charge. JE E52, F43. KW Saving. Capital Depreciation. Economic Growth. Japan.

AB Japanese government planners use the average age of the manufacturing capital stock as one measure of their country's international "competitiveness." Compared to the U.S., the data show that Japanese depreciation rates are higher and that capital stocks are younger. In much of economic analysis, higher rates of depreciation are assumed to result in poorer economic performance. A high depreciation rate lowers the net capital stock, and decreases the level of output. In this paper, we argue that Japan's high depreciation rate is caused by that country's high rate of technological progress. High depreciation rates may be a symptom of a rapidly growing economy. Our results have implications for the international comparison of investment rates. Many economists have compared U.S. and Japanese investment rates net of the depreciation of capital. Presumably, economists are interested in investment rates because of the belief that high rates are positively correlated with a high level of economic performance. If technological progress causes depreciation rates to be high, however, net investment rates may not be informative about a nation's welfare. Two countries with the same net investment rate can have different rates of per capita output growth if their rates of technological progress are different. We show that the investment rate gross of depreciation may be a better indicator of welfare.

#### Delorme, Francois

TI Assessing the International Spillover Effects of Capital Income Taxation. AU Thalmann, Philippe; Goulder, Lawrence H.; Delorme, Francois.

#### Delpla, Jacques

PD August 1994. TI Russia's Transition: Muddling-Through. AU Delpla, Jacques; Wyplosz, Charles. AA Delpla: INSEAD and MFU, Wyplosz: INSEAD and Centre for Economic Policy Research. SR INSEAD Working Papers: 94/60/EPS; INSEAD, Boulevard de Constance, Fontainebleau, 77305 Cedex, FRANCE. PG 23. PR not available. JE E63. KW Fiscal Policy. Inflation. Monetary Policy. Russia.

AB This paper reviews the macroeconomic situation in Russia over 1993-1994. It notes the striking progress achieved in the fight against inflation and tracks down the contributions of monetary and fiscal policies. However, the paper notes that the situation is unsustainable, with tax revenues rapidly falling and real interest rates excessively high. When asking whether a relapse into near hyperinflation is likely, the paper concludes that more likely are further ups and downs of moderate amplitude, as Russia muddles through towards normalcy.

#### Dermine, J.

PD July 1994. TI International Trade in Banking. AA INSEAD. SR INSEAD Working Papers: 94/34/FIN; INSEAD, Boulevard de Constance, Fontainebleau, 77305 Cedex, FRANCE. PG 32. PR not available. JE F33, F36, G15. KW International Finance.

AB This paper presents an economic analysis to guide the legal framework governing international trade in banking services. Close attention is paid to the ability of the national treatment principle to deal with banking, to reciprocity clauses, and to harmonization of national regulations. Six conclusions reached are (1) discussion should start with an understanding of potential market failures leading to public intervention and regulation; (2) support for the recommendations of the Basle committee; (3) level of protection of investors is a domestic matter, and insured deposits should be first-order claims; (4) domestic rents should not be permitted to subsidize international activities, and in this context of fair trade, harmonization is only necessary in the case of identified public subsidy conferring competitive advantage; (5) European banking integration provides a useful example of advanced integration; (6) although the national treatment principle seems often adequate, entry will sometimes require reciprocity negotiations.

#### Detemple, Jerome

TI Bounds and Approximations for American Option Values. AU Broadie, Mark; Detemple, Jerome.

TI American Capped Call Options on Dividend Paying Assets. AU Broadie, Mark; Detemple, Jerome.

TI The Valuation of American Options on Multiple Assets. AU Broadie, Mark; Detemple, Jerome.

#### Dhonte, Pierre

PD September 1994. TI Economic Trends in Africa: The Economic Performance of Sub-Saharan African Countries. AU Dhonte, Pierre; Ballali, Daudi; Terrier, Gilbert; Cosse, Stephane. AA International Monetary Fund. SR International Monetary Fund Working Paper: WP/94/109; International Monetary Fund, 700 19th Street, Washington, DC 20431. PG 19. PR not available. JE O55, O11, F14. KW Economic Development. Growth. Trade.

**AB** This paper highlights selected recent developments in the economies of sub-Saharan Africa. It notes that the outlook for commodity prices has improved, and with it the outlook for economic activity beyond 1994; it also notes, however, the need for higher savings and investment to sustain growth over the medium term. The paper also covers two aspects of structural adjustment: the liberalization of exchange and trade systems, which has been extensive and has resulted in a sharp reduction in exchange market distortions; and the momentum of regional integration in the CFA countries and in the Southern Africa region.

### Dickens, Richard

**PD** August 1993. **TI** The Effect of Minimum Wages on Employment: Theory and Evidence From Britain. **AU** Dickens, Richard; Machin, Stephen; Manning, Alan. **AA** Dickens and Manning; London School of Economics. Machin: University College London and London School of Economics. **SR** University College London Discussion Paper: 93-13; Department of Economics, University College London, Gower Street, London WC1E 6BT, ENGLAND. **PG** 55. **PR** 3.00 pounds; checks payable to Department of Economics, University College London. **JE** J31, J42, J64. **KW** Minimum Wages. Monopsony. Employment.

**AB** In this paper we present a theoretical framework which is general enough to allow minimum wages to have the conventional negative impact on employment, but which also allows for the possibility of a positive effect. The model structure is based on labor market frictions which give employers some degree of monopsony power. The formulated model has a number of empirical implications which we go on to test using data on industry-based minimum wages set by the British Wages Councils between 1975 and 1990. Some strong results emerge: minimum wages significantly compress the distribution of earnings and, contrary to conventional economic wisdom but in line with several recent U.S. studies, do not have a negative impact on employment. If anything, the relationship between minimum wages and employment is estimated to be positive.

### Donaldson, John B.

**TI** Non-Walrasian Economies. **AU** Danthine, Jean-Pierre; Donaldson, John B.

**TI** Computing Equilibria of Non-Optimal Economies. **AU** Danthine, Jean-Pierre; Donaldson, John B.

### Dow, James

**TI** Default, Settlement, and Signaling: Lending Resumption in a Reputational Model of Sovereign Debt. **AU** Cole, Harold; Dow, James; English, William.

### Dueker, Michael J.

**PD** May 1994. **TI** Maximum-Likelihood Estimation of Fractional Cointegration With An Application to the Short End of the Yield Curve. **AU** Dueker, Michael J.; Startz, Richard. **AA** Dueker: Federal Reserve Bank of St. Louis. Startz: University of Washington. **SR** Federal Reserve Bank of St. Louis Working Paper: 94-027A; Research and Public Information Division, Federal Reserve Bank of St. Louis, P.O. Box 442, St. Louis, MO 63166. **PG** 21. **PR** no charge. **JE** C32, C51, E43. **KW** Fractional Integration. Cointegration. Multivariate Estimation.

**AB** We estimate multivariate autoregressive fractionally-integrated moving-average (ARFIMA) models to illustrate their usefulness in a unified testing strategy for fractional cointegration, where we measure on a continuous scale the extent to which two series share a common trend. Unlike previous work with cointegration, multivariate ARFIMA models provide joint estimates of the order of integration of the input series and the fractionally cointegrating vector. As an example, we look at the short end of the yield curve, three-month and one-year Treasury bill rates. Traditional unit root tests suggest the two series are  $I(1)$  and cointegrated. We find that the series appear fractionally integrated, though a unit root cannot be rejected. The series are also fractionally cointegrated, as the residuals from the cointegrating relationship are fractionally integrated of much lower order than the two interest rate series--to the point where the cointegrating residuals display antipersistence or negative low order autocorrelation. We call this strong form hypercointegration.

### Duffy, John

**TI** Using Genetic Algorithms to Model the Evolution of Heterogeneous Beliefs. **AU** Bullard, James B.; Duffy, John.

### Dumas, Marc

**TI** Discrete Lotsizing and Scheduling With Sequence Dependent Setup Times and Setup Costs. **AU** Salomon, Marc; Solomon, Marius M.; Van Wassenhove, L. N.; Dumas, Yvan; Dauzere-Peres, Stephane.

### Durlauf, Steven N.

**TI** Interpreting Tests of the Convergence Hypothesis. **AU** Bernard, Andrew B.; Durlauf, Steven N.

### Dustmann, Christian

**PD** October 1994. **TI** Savings Behavior of Migrant Workers: A Life-Cycle Analysis. **AA** University College London. **SR** University College London Discussion Paper: 94-11; Department of Economics, University College London, Gower Street, London WC1E 6BT, ENGLAND. **PG** 23. **PR** 3.00 pounds; checks payable to Department of Economics, University College London. **JE** D91, F22. **KW** Migration. Life Cycle. Savings.

**AB** If migrants have the intention to return to their home countries, their consumption behavior in the host country is conditioned on characteristics of this future location. An analysis of migrants' savings behavior therefore necessitates to model both return and consumption plans simultaneously. This paper develops a theoretical framework where the return point is treated as endogenous. The analysis shows that the general perception that savings of temporary migrants peak at the return point is not necessarily true. The endogenization of the return point is particularly important if using the model as a basis for empirical work. Changes in parameters do not only have a direct, but also an indirect effect on consumption. This indirect effect may change some qualitative results and is neglected if the return decision is assumed as exogenous. Finally, a comparison between migrants and natives identifies two reasons why migrants' savings should be higher than those of individuals from the indigenous population.

### Dutta, J.

**TI** Price Uncertainty and Derivative Securities in General Equilibrium. **AU** Chichilnisky, Graciela; Dutta, J.; Heal,

Geoffrey.

### Dutta, Soumitra

PD 1994. TI Aligning it With the Business: A Comparative Study of Two Banks. AA INSEAD. SR INSEAD Working Papers: 94/37/TM/SM; INSEAD, Boulevard de Constance, Fontainebleau, 77305 Cedex, FRANCE. PG 25. PR not available. JE L86. KW MIS Management. MIS Alignment. MIS Planning. Outsourcing. MIS Success.

AB This paper presents a comparative study of how two banks, Banco Comercial Portugues (BCP) and Continental Bank have each chosen to align information technology (IT) with their businesses. While BCP manages IT in-house, Continental Bank has chosen a very different route--it became the first major bank to completely outsource all of its IT in 1992. Despite their apparently diametrically opposed approaches to managing IT, both banks face the problem of effectively linking IT to their business strategies. This paper describes the particular approach used by each bank for aligning IT with its business and draws some general conclusions from a comparative analysis of their experiences.

PD 1994. TI Strategies for Implementing Knowledge-Based Systems. AA INSEAD. SR INSEAD Working Papers: 94/39/TM; INSEAD, Boulevard de Constance, Fontainebleau, 77305 Cedex, FRANCE. PG 20. PR not available. JE L86. KW Information, Knowledge, MIS.

AB The permeation of knowledge-based technologies in organizational information systems is having important strategic impacts, specially on issues related to the management of firm's knowledge assets. The challenges in implementing knowledge-based information systems have evolved from technical matters to organizational and strategic issues. This paper relates knowledge-based information systems to the management of organizational knowledge and specifies different strategies that can be adopted by companies for the successful implementation of such systems.

TI Case-Based Decision Support. AU Angehrn, Albert A.; Dutta, Soumitra.

PD 1994. TI Using Case-Based Reasoning for Supporting Decision Processes. AA INSEAD. SR INSEAD Working Papers: 94/59/TM; INSEAD, Boulevard de Constance, Fontainebleau, 77305 Cedex, FRANCE. PG 28. PR not available. JE C44, C61, L86. KW Case-Based Reasoning. Case-Based Decision Support Systems. Decision Making Decision Processes.

AB Conventional case-based reasoning systems act as "automated problem solvers." The use of case-based reasoning systems (CBRSs) for decision aiding has been proposed in the literature recently. Most existing decision aiding CBR's are designed as smart retrieval systems. They do not focus on monitoring and supporting the decision processes of decision makers. A process focus in decision aiding CBRs calls for major changes in the design and implementation of such systems as compared to conventional CBRs. This paper emphasizes the utility of tracking and exploiting decision processes in decision aiding CBRs and outlines important issues in the implementation of such systems via CAL, a particular process focused and decision aiding CBRs.

### Eaton, Jonathan

PD November 1994. TI International Patenting and

Technology Diffusion. AU Eaton, Jonathan; Kortum, Samuel. AA Eaton: Boston University and National Bureau of Economic Research. Kortum: Boston University, Board of Governors of the Federal Reserve System, and National Bureau of Economic Research. SR Board of Governors of the Federal Reserve System Finance and Economics Discussion Series: 94-35; Board of Governors of the Federal Reserve System, C/O Sharon Kozicki, Mail Stop 61, Federal Reserve Board, Washington, DC 20551. PG 27. PR no charge. JE F43, O14, O31, O34, O41. KW Technology. International Diffusion. Research. Innovation. Patent.

AB We model the invention of new technologies and their diffusion across countries. Our model predicts that, eventually, all countries will grow at the same rate, with each country's productivity ranking determined by how rapidly it adopts inventions. The common growth rate depends on research efforts in all countries, while research effort is determined by how much inventions earn at home and abroad. Patents affect the return to invention. We relate the decision to patent an invention internationally to the cost of patenting in a country and to the expected value of patent protection in that country. We can thus infer the direction and magnitude of the international diffusion of technology from data on international patenting, productivity, and research. We fit the model to data from the five leading research economies. The parameters indicate how much technology flows between these countries and how much each country earns from its inventions domestically and elsewhere. Our results imply that foreign countries are important sources of technology even though countries earn most of their return to innovation at home. For example, about half of U.S. productivity growth derives from foreign technology yet U.S. inventors earn 98 percent of the revenue from their inventions domestically.

### Editorial Division

PD August 1994. TI Working Paper Summaries. AA International Monetary Fund. SR International Monetary Fund Working Paper: WP/94/87; International Monetary Fund, 700 19th Street, Washington, DC 20431. PG 75. PR not available. JE A10. KW Working Paper Summary.

AB This compilation of summaries of Working Papers released during January-June 1994 is being issued as a part of the Working Paper Series. It is designed to provide the reader with an overview of the research work performed by the staff during the period.

### Edwards, Franklin R.

PD March 1993. TI Financial Markets and Managerial Myopia: Making America More Competitive. AA Columbia University. SR Columbia PaineWebber Working Paper Series in Money, Economics and Finance: PW-93-05; PaineWebber Series, 6N Uris Hall, Columbia University, New York, NY 10027. PG 38. PR \$5.00 academics and non-profit institutions; \$6.00 corporations (add \$1.00 outside U.S., Canada and Puerto Rico). JE G18, G38. KW Capital Gains. Equity. Myopia.

AB This paper (1) reviews evidence related to the question of whether American investors behave myopically. Having found that they generally do not, the paper (2) provides and explanation of apparent myopia in terms of relatively high capital costs. The paper (3) proposes financial reforms to encourage long-term ownership and active involvement by and



on the part of institutional investors.

**PD** August 1993. **TI** Financial Markets in Transition--Or the Decline of Commercial Banking. **AA** Columbia University. **SR** Columbia PaineWebber Working Paper Series in Money, Economics and Finance: PW-93-06; PaineWebber Series, 6N Uris Hall, Columbia University, New York, NY 10027. **PG** 43. **PR** \$5.00 academics and non-profit institutions; \$6.00 corporations (add \$1.00 outside U.S., Canada and Puerto Rico). **JE** G20, G30. **KW** Finance.

**AB** This paper identifies, describes, and explains key trends that underlie revolutionary changes in the U.S. financial markets during the 1980s. Possible policy responses are discussed.

### Eggers, John H.

**PD** 1994. **TI** Stages of Small Business Growth Revisited: Insights Into Growth Path and Leadership/Management Skills in Low- and High-Growth Companies. **AU** Eggers, John H.; Leahy, Kim T.; Churchill, Neil C. **AA** Eggers and Leahy: Center for Creative Leadership. **Churchill:** INSEAD. **SR** INSEAD Working Papers: 94/63/EPS; INSEAD, Boulevard de Constance, Fontainebleau, 77305 Cedex, FRANCE. **PG** 6. **PR** not available. **JE** D21. **KW** Business Growth.

**AB** We explored the developmental progression of organizations using Churchill and Lewis' (1983) stage typology of small business growth. In a revalidation and update of their model we found substantial support for the original, model, and defined the critical leadership/management skills needed per stage. Using Reynolds' (1988) four classifications for high-growth, low-growth companies, we found that over time there were no significant differences between the two classifications for high-growth companies in either annual sales or jobs created. We did find significant differences between the self-reported skills of CEO's in high-growth companies versus low-growth companies.

### Eichenbaum, Martin

**TI** Small Sample Properties of Generalized Method of Moments Based Wald Tests. **AU** Burnside, Craig; Eichenbaum, Martin.

### Eichengreen, Barry

**PD** July 1994. **TI** Two Cases for Sand in the Wheels of International Finance. **AU** Eichengreen, Barry; Tobin, James; Wyplosz, Charles. **AA** Eichengreen: University of California, Berkeley. **Tobin:** Yale University. **Wyplosz:** INSEAD. **SR** INSEAD Working Papers: 94/54/EPS; INSEAD, Boulevard de Constance, Fontainebleau, 77305 Cedex, FRANCE. **PG** 18. **PR** not available. **JE** F31, F32, F33. **KW** Exchange Rate.

**AB** Historically, fixed exchange rate system have had a finite lifetime. In particular they are incompatible with full capital mobility. This would leave just two sustainable options for exchange rate systems: free floating or currency unions. We examine two possibilities for maintaining the intermediate option of fixed but adjustable rates, for those groups of countries which cannot form currency unions and yet seek to limit exchange rate fluctuations. The first option is a transaction tax imposed on foreign exchange transactions. The institutional requirements of such a tax are heavy: it must be global and closely monitor by an international organization. The second option, a tax on lending to non-residents. This measure too is

shown to be very demanding. We examine whether it can be used temporarily to help bridge the transition from EMS to EMU which has already been highly disruptive.

**TI** Restraining Yourself: Fiscal Rules and Stabilization. **AU** Bayoumi, Tamim; Eichengreen, Barry.

**PD** September 1994. **TI** Speculative Attacks on Pegged Exchange Rates: An Empirical Exploration With Special Reference to the European Monetary System. **AU** Eichengreen, Barry; Rose, Andrew K.; Wyplosz, Charles. **AA** Eichengreen and Rose: Centre for Economic Policy Research, National Bureau of Economic Research and University of California, Berkeley. **Wyplosz:** Centre for Economic Policy Research and INSEAD. **SR** INSEAD Working Papers: 94/55/EPS; INSEAD, Boulevard de Constance, Fontainebleau, 77305 Cedex, FRANCE. **PG** 30. **PR** not available. **JE** F31, F32. **KW** Balance of Payments Crisis. Speculative Attack. ERM.

**AB** This paper presents an empirical analysis of speculative attacks on pegged exchange rates in 22 countries between 1967 and 1992. We define speculative attacks or crises as large movements in exchange rates, interest rates, and international reserves. We develop stylized facts concerning the univariate behavior of a variety of macroeconomic variables, comparing crises with periods of tranquility. For ERM observations we cannot reject the null hypothesis that there are few significant differences in the behavior of key macroeconomic variables between crises and non-crisis periods. This null can be decisively rejected for non-ERM observations, however. Precisely the opposite pattern is evident in the behavior of actual realignments and changes in exchange rate regimes. We attempt to tie these findings to the theoretical literature on balance of payments crises.

**PD** September 1994. **TI** Is There a Safe Passage to EMU? Evidence on Capital Controls and a Proposal. **AU** Eichengreen, Barry; Rose, Andrew K.; Wyplosz, Charles. **AA** Eichengreen and Rose: Centre for Economic Policy Research, National Bureau of Economic Research and University of California, Berkeley. **Wyplosz:** Centre for Economic Policy Research and INSEAD. **SR** INSEAD Working Papers: 94/58/EPS; INSEAD, Boulevard de Constance, Fontainebleau, 77305 Cedex, FRANCE. **PG** 25. **PR** not available. **JE** F31, F32. **KW** Speculative Attacks. EMS. Exchange Rates. Exchange Rate Crisis.

**AB** This paper provides evidence on the effects of capital controls. We show that controls have been associated with significant differences in macroeconomic behavior, especially in monetary policy. While they have not prevented speculative attacks, they have provided the breathing space needed to organize orderly realignments. We also provide evidence on the channels through which speculative attacks operate, showing that bank lending to nonresidents is a key transmission mechanism. We conclude with a discussion of measures that mimic some of the effects of controls as a way of easing the transition to European Monetary Union. Non-interest-bearing deposit requirements on lending to nonresidents are proposed as a third-best route to monetary union.

**TI** The Stability of the Gold Standard and the Evolution of the International Monetary System. **AU** Bayoumi, Tamim; Eichengreen, Barry.

**PD** October 1994. **TI** History and Reform of the International Monetary System. **AA** University of California,

Berkeley. **SR** University of California, Berkeley, Center for International and Development Economics Research Working Paper: C94-041; **IBER**, 156 Barrows Hall, University of California, Berkeley, CA 94720. **PG** 30. **PR** no charge. **JE** F31, F33, N20. **KW** Exchange Rate. International Monetary Reform. Economic History.

**AB** This paper surveys the history of the international monetary system and considers alternatives for its reform. It first identifies three necessary conditions for international monetary stability. It then uses them as a basis for analyzing the functioning of alternative international monetary arrangements. The paper concludes with reflections on international monetary reform.

**PD** October 1994. **TI** The Geography of the Gold Standard. **AU** Eichengreen, Barry; Flandreau, Marc. **AA** Eichengreen: University of California, Berkeley. Flandreau: OFCE and CNRS, Paris. **SR** University of California, Berkeley, Center for International and Development Economics Research Working Paper: C94-042; **IBER**, 156 Barrows Hall, University of California, Berkeley, CA 94720. **PG** 30. **PR** no charge. **JE** E42, E58, F31, F33. **KW** Gold Standard. Foreign Exchange. International Monetary System.

**AB** In this paper we chart the geography of the gold standard. We highlight the late date of the move to gold and the variety of transition strategies. Whether a country with a currency convertible into specie operated a gold, silver, or bimetallic standard at mid-century depended not so much on whether it was rich or poor as on the monetary standard of the foreign country or countries to which its transactions were linked. When it came to the distinction between specie convertibility and inconvertibility, however, domestic economic conditions came into play. In particular, there was a strong correlation between economic development, as proxied by the level of per capita incomes, and possession of a convertible currency. Most countries went onto the gold standard between the 1870's and the first decade of the 20th century. We enumerate the factors propelling this transition and analyze variations in its timing. Factors shaping the course of this transition include the level of economic development, the magnitude of reserves relative to world specie markets, whether reserves were concentrated at the central bank, and the presence or absence of imperial ties.

**PD** October 1994. **TI** The Bretton Woods System: Paradise Lost? **AA** University of California, Berkeley. **SR** University of California, Berkeley, Center for International and Development Economics Research Working Paper: C94-043; **IBER**, 156 Barrows Hall, University of California, Berkeley, CA 94720. **PG** 21. **PR** no charge. **JE** E42, E58, F31, F33. **KW** Exchange Rates. International Monetary System. Bretton Woods.

**AB** The Bretton Woods System frequently appears in the scholarly literature as a model for international monetary reform. This paper briefly considers its operation. It argues that the system's principle achievement, the maintenance of stable exchange rates, was a product not of the agreement finalized at the Bretton Woods Conference alone, but of two exceptional features of the postwar world. One was the limited international mobility of capital. Capital controls provided policymakers room for maneuver and they softened the tradeoff between domestic objectives and defense of the exchange-rate peg. The other was singular scope for growth resulting from postwar reconstruction and catch-up. In these circumstances, countries felt little need to engage in discretionary monetary and fiscal

policies that might have undermined the currency peg.

#### Einarsson, Tor

**TI** Optimal Disinflation Paths When Growth is Endogenous. **AU** Marquis, Milton H.; Einarsson, Tor.

**TI** An RBC Model With Growth: The Role of Human Capital. **AU** Marquis, Milton H.; Einarsson, Tor.

#### El-Erian, Mohamed A.

**PD** September 1994. **TI** Emerging Equity Markets in Middle Eastern Countries. **AU** El-Erian, Mohamed A.; Kumar, Manmohan S. **AA** International Monetary Fund. **SR** International Monetary Fund Working Paper: WP/94/103; International Monetary Fund, 700 19th Street, Washington, DC 20431. **PG** 28. **PR** not available. **JE** G14, G15, P52. **KW** Financial Markets. International Comparison. Informational Efficiency.

**AB** Within a broad framework for analyzing portfolio capital flows to developing countries, the paper undertakes a comparative analysis of equity markets in six Middle Eastern countries. The analysis, based primarily on a range of quantitative indicators, identifies the principal characteristics of these markets, including relative to international comparisons, and examines associated structural features. This, along with an analysis of the informational efficiency of selected markets in the region, provides a basis for the subsequent review of policies for enhancing the role of equity markets in the macroeconomy of Middle Eastern countries.

#### Elul, Ronel

**PD** September 1994. **TI** Welfare-Improving Financial Innovation with a Single Good. **AA** Brown University and Yale University. **SR** Brown University Department of Economics Working Paper: 94-22; Department of Economics, Brown University, Providence, RI 02912. **PG** 17. **PR** no charge. **JE** D52, D61, D62. **KW** Incomplete Markets. Financial Innovation. Welfare. General Equilibrium.

**AB** We show that in almost every incomplete markets economy with a single consumption good, sufficiently many uninsured states of nature, and at least as many agents as assets, that at any general equilibrium of this economy it is possible to find an asset paying off in the numeraire such that upon introducing this asset, there is a nearby equilibrium of the new economy at which every agent is better-off than at the equilibrium of the old economy. It is of course impossible to find an asset which makes every agent worse-off when introduced. This contrasts with the case of multiple consumption goods, for which Cass-Citanna (1994) and Elul (1994) demonstrate that the equilibrium utilities may be arbitrarily perturbed via financial innovation. Proving our result requires us to exploit not changes in equilibrium prices, but rather the gains to trading the new asset.

**PD** September 1994. **TI** Welfare Effects of Financial Innovation in Incomplete Markets Economies with Several Consumption Goods. **AA** Brown University and Yale University. **SR** Brown University Department of Economics Working Paper: 94-23; Department of Economics, Brown University, Providence, RI 02912. **PG** 39. **PR** no charge. **JE** D52, D61, D62. **KW** Incomplete Markets. Financial Innovation. Welfare. General Equilibrium.

**AB** We show that in almost every incomplete markets economy with more than one consumption good, and with

sufficiently many uninsured states of nature, that at any general equilibrium of this economy it is possible to arbitrarily perturb the equilibrium utilities merely by introducing the appropriate asset-making, for example, all agents worse off. This result demonstrates that the examples given by Hart (1975) and others are actually general phenomena, and is in sharp contrast to the intuition that innovation, since it expands financial opportunities, should benefit all agents.

### Engel, Charles

PD May 1994. TI The Distribution of Exchange Rates in the EMS. AU Engel, Charles; Hakkio, Craig S. AA Engel: University of Washington. Hakkio: Federal Reserve Bank of Kansas City. SR Federal Reserve Bank of Kansas City Research Working Paper: 94-03; Research Division, Federal Reserve Bank of Kansas City, 925 Grand Blvd., Kansas City, MO 64198. PG 31. PR no charge. JE F31, F33. KW Foreign Exchange. European Monetary System. Stability. AB Exchange rates of currencies in the Exchange Rate Mechanism of the EMS are characterized by long periods of stability interrupted by periods of extreme volatility. The periods of volatility appear at times of realignment of the central parties and at times when the exchange rate is within the ERM bands. We capture this behavior in several ways. First, we consider two procedures for finding outliers--observations that do not conform to the pattern suggested by the majority of observations. The first procedure is nonparametric and the second procedure is based on measuring distance as a quadratic form. The evidence suggests that the exchange rates of the EMS can be described by a mixture of two distributions. We therefore model the exchange rate as switching between two distributions--one that holds in stable times and the other that holds in volatile times. In particular, we use Hamilton's Markov-switching model. We also extend Hamilton's model by allowing the probability of switching from one state to another to depend on the position of the exchange rate within its EMS band.

### English, William

TI Default, Settlement, and Signaling: Lending Resumption in a Reputational Model of Sovereign Debt. AU Cole, Harold; Dow, James; English, William.

### Evenson, Robert E.

TI Measurement of the Total Factor Productivity of Spanish Agriculture: 1962-1989. AU Fernandez, M. Carmen; Herruzo, A. Casimiro; Evenson, Robert E.

PD January 1994. TI Technological Change and Technology Strategy. AU Evenson, Robert E.; Westphal, Larry E. AA not available. SR Yale Economic Growth Center Discussion Paper: 709; Economic Growth Center, Yale University, Box 208269, Yale Station, New Haven CT 06520. PG 132. PR \$2.00 + postage. JE O33, O38, O11, E22. KW Technology. Policy. Development. Investment.

AB This paper reviews both theoretical and empirical studies of technological change in developing countries. It assesses the contribution that these studies have made to technology strategy and offers suggestions for further economic research. The paper concludes that developing countries cannot expect to achieve technology-driven economic growth without significant investment in technology infrastructure and without developing a conducive environment for such investment and for accessing foreign origin technology. Of the approximately

100 less developed countries, only 25 or so have made sufficient investments in technology infrastructure to achieve rapid economic growth. And of these, only ten or so have actually realized such growth because of adverse policy environments.

PD July 1994. TI Genetic Resources. International Organizations and Rice Varietal Improvement. AU Evenson, Robert E.; Gollin, Douglas. AA not available. SR Yale Economic Growth Center Discussion Paper: 713; Economic Growth Center, Yale University, Box 208269, Yale Station, New Haven CT 06520. PG 38. PR \$2.00 + postage. JE Q12, Q13. KW Genetic Resources. Rice. Technology Research. Agriculture.

AB This paper examines the economic role of three programs of the International Rice Research Institute designed to achieve genetic improvement in rice. These programs are the international genetic resource collection (IRGC), the international plant breeding program (IRPB), and the international network for the genetic evaluation of rice (INGER, a system of "nurseries" in which varieties and advanced lines are tested in national programs. All of these programs are designed to contribute to rice genetic improvement by collaborating with counterpart national rice research programs.

### Faini, Riccardo

TI Early Trade Patterns Under the Europe Agreements: France, Germany and Italy. AU Cadot, Olivier; Faini, Riccardo; de Melo, Jaime.

### Fair, Ray C.

PD October 1994. TI The Effect of Economic Events on Votes for President: 1992 Update. AA Yale University. SR Yale Cowles Foundation Discussion Paper: 1084; Yale University, Cowles Foundation for Research in Economics, 30 Hillhouse Ave., Box 2125 Yale Station, New Haven, CT 06520. PG 31. PR no charge. JE D72. KW Voting Behavior. Presidential Elections.

AB This paper updates through the 1992 election the equation originally presented in Fair (1978) explaining votes for president. Conditional predictions of the 1996 election are also made.

### Falaris, Evangelos M.

PD June 1994. TI Survey Attrition and Schooling Choices. AU Falaris, Evangelos M.; Peters, H. Elizabeth. AA Falaris: University of Delaware. Peters: Cornell University. SR University of Delaware Department of Economics Working Paper: 94-9; College of Business and Economics, Department of Economics, University of Delaware, Newark, Delaware 19716-2720. PG 20. PR not available. JE C52, C81, I21, J24. KW Longitudinal Surveys. Attrition. Education.

AB It is well known that longitudinal surveys lose parts of their samples over time to attrition. Little is known, however, about the effect of survey attrition on the estimates of statistical models which are obtained using longitudinal data. In this paper we propose a new method of studying the effect of survey attrition on estimates of statistical models. We apply this method to the study of schooling choices.

**Fan, Ca. Simon**

**PD** May 1994. **TI** Human Capital and Long-Run Growth in Russia: A Cautionary Perspective. **AU** Fan, Ca. Simon; Spagat, Michael. **AA** Brown University. **SR** Brown University Department of Economics Working Paper: 94-15; Department of Economics, Brown University, Providence, RI 02912. **PG** 32. **PR** no charge. **JE** I02, J24, O04, O15, P00. **KW** Russia. Human Capital. Occupational Choice. Long-Run Growth.

**AB** This paper analyses the potential of human capital to act as an engine of economic growth in Russia, where the existing reserves of skills and education are already substantial. We utilize an intergenerational externality effect of parental human capital on their offspring's human capital formation to show that the chaos of the transition process can lead to a permanent lowering of human capital and hence long-run output. Specifically, we argue that an unmitigated transitional shock absorbed in a post-communist environment causes a temporary but dramatic decrease in the private returns to investments in human capital. We then demonstrate that individual decisions to withdraw from or not enter the skilled labor force (brain drain) have irreversible negative consequences for long-run output, although they may actually boost GNP in the medium run. Next we establish that a government initiative to restructure the education sector early in the transition process may prevent excessive deterioration of Russia's human potential and permanently increase long-run output. We then show how foreign borrowing might allow this policy to achieve a Pareto improvement over a policy of economic adjustment with delayed educational reform. Finally, we suggest that attempts to move the education system too quickly toward full self-financing are likely to be counterproductive, because they may deny the benefits of educational restructuring to precisely the people it is designed to help.

**Farrell, Joseph**

**PD** November 1994. **TI** The Vertical Organization of Industry: Systems Competition Versus Component Competition. **AU** Farrell, Joseph; Monroe, Hunter K.; Saloner, Garth. **AA** Farrell: University of California, Berkeley. Monroe: International Monetary Fund. Saloner: Stanford University. **SR** Stanford Graduate School of Business Research Paper: 1329; Jackson Library Graduate School of Business, Stanford University, Stanford, CA 94305-5016. **PG** 35. **PR** no charge. **JE** D23, L13, L21, L22. **KW** Vertical Integration. Imperfect Competition. Duopoly.

**AB** We discuss two contrasting styles of vertical organization of an industry with complementary activities or components: systems competition versus component competition. When firm's competencies differ, systems competition is not a perfect substitute for component competition, even with Bertrand behavior. Costs, prices, industry profits, and the distribution of those profits among firms all differ between the two styles of organization. Firms' profit incentives do not generally guide them towards the socially efficient form of vertical organization. In duopoly, there is a bias towards open organization (component competition), but with enough firms (three or more, in an exponential example) this bias is reversed.

**Faruquee, Hamid**

**PD** August 1994. **TI** Long-Run Determinants of the Real Exchange Rate: A Stock-Flow Perspective. **AA** International Monetary Fund. **SR** International Monetary Fund Working

Paper: WP/94/90; International Monetary Fund, 700 19th Street, Washington, DC 20431. **PG** 19. **PR** not available. **JE** F31, F41. **KW** Foreign Exchange. Cointegration. International Trade.

**AB** This paper examines the long-run determinants of the real exchange rate from a stock-flow perspective. The empirical analysis estimates a long-run relationship between the real exchange rate, net foreign assets, and other factors affecting trade flows. Using postwar data for the United States and Japan, cointegration analysis supports the finding that the structural factors underlying each country's net trade and net foreign asset positions determine the long-run path for the real value of the dollar and the yen. The empirical analysis also provides estimates for the underlying stochastic trend in each real exchange rate series.

**Fata, Antonio**

**TI** Regional Labor Market Dynamics in Europe. **AU** Decressin, Jorg; Fata, Antonio.

**Fatas, Antonio**

**PD** 1994. **TI** So Business Cycles Cast Long Shadows? Short-Run Persistence and Economic Growth. **AA** INSEAD. **SR** INSEAD Working Papers: 94/51/EPS; INSEAD, Boulevard de Constance, Fontainebleau, 77305 Cedex, FRANCE. **PG** 21. **PR** not available. **JE** E23, E32, C42. **KW** Business Cycle. Growth.

**AB** This paper explores the links between short-run (cyclical) phenomena and the long-run technological trend of output. We show that there is a strong positive correlation between the degree of persistence of short-run fluctuations and the average growth rates in both cross-country and cross-country data. We present an endogenous growth model with aggregate demand shocks that can account for this positive correlation. Although the shocks in the model are cyclical, they are able to generate persistent fluctuations through the effects that they have on technological progress. Persistence becomes a measure of the growth that is lost (or gained) during a recession (or a boom). Growth becomes a necessary condition for the shocks to be persistent and the degree of persistence is a function of the speed at which productivity increases. A key feature of the model is that cyclical behavior of those resources responsible for growth. We empirically verify this assumption by showing the procyclical behavior of R&D expenditures in the U.S., Germany and Japan.

**Feldman, Allan M.**

**PD** August 1994. **TI** The Value of Life. **AA** Brown University. **SR** Brown University Department of Economics Working Paper: 94-21; Department of Economics, Brown University, Providence, RI 02912. **PG** 32. **PR** no charge. **JE** J17, J28, K13. **KW** Value of Life. Hedonic Damages.

**AB** Most of the criticism of the willingness-to-pay measures of the value of life have focused on the empirical studies. Economists have generally not attacked the theoretical foundation (with the notable exception of John Broome). The purpose of this paper is to attack that foundation, by exposing it, and by illustrating it with a plausible utility function, so as to reveal its weaknesses.

**Fernald, John G.**

**TI** Constant Returns and Small Markups in U.S. Manufacturing. **AU** Basu, Susanto; Fernald, John G.

**Fernandez, Fernando**

TI Monetary Transmission and Financial Indexation: Evidence From the Chilean Economy. AU Mendoza, Enrique G.; Fernandez, Fernando.

**Fernandez, M. Carmen**

PD December 1993. TI Measurement of the Total Factor Productivity of Spanish Agriculture: 1962-1989. AU Fernandez, M. Carmen; Herruzo, A. Casimiro; Evenson, Robert E. AA not available. SR Yale Economic Growth Center Discussion Paper: 708; Economic Growth Center, Yale University, Box 208269, Yale Station, New Haven CT 06520. PG 15. PR \$2.00 + postage. JE Q11, D24. KW Productivity. Spain. Agriculture. Total Factor Productivity.

AB The agricultural sector in Spain has undergone rapid transformation since the 1960's. Rapid increases in capital and chemical input use was accompanied by rapid decreases in labor use. This study reports the first calculations for total factor productivity (TFP) growth for Spanish agriculture. TFP calculations are made for the crops and livestock sector for the 1962-1989 period. During the 1962-1970 period, TFP growth was 1.84 percent per year. From 1970 to 1980 TFP grew at 3.44 percent, one of the highest rates for the agricultural sector achieved in the world during this period. TFP growth slowed in the 1980's. This appears to be related to Spain's entry into the European Common Market in the 1980's. Greece experienced a similar TFP slowdown in this period.

**Filardo, Andrew J.**

PD December 1994. TI International Co-Movements of Business Cycles. AU Filardo, Andrew J.; Gordon, Stephen F. AA Filardo: Federal Reserve Bank of Kansas City. Gordon: Universite Laval. SR Federal Reserve Bank of Kansas City Research Working Paper: 94-11; Research Division, Federal Reserve Bank of Kansas City, 925 Grand Blvd., Kansas City, MO 64198. PG 23. PR no charge. JE E32, C31, C32. KW Business Cycles. Markov Switching Models. Gibbs Sampler.

AB It is generally agreed that the co-movement of economic aggregates is a defining feature of business cycles--nationally and internationally. However, measurements of the co-movement of international business cycles have generally ignored the expansionary and contractionary phases of the business cycle. This paper provides an empirical investigation of the co-movement of international economic activities with special focus on Burns and Mitchell type phase behavior. The authors take a novel approach to this topic by exploiting the cross-sectional and time series nature of the model to document co-movement of economic activities when conditioned on unobservable, yet pervasive, cyclical phases. Features of the business cycle such as phase identification, steepness of phases, and other asymmetric behavior are captured in the time-varying transition probability Markov switching models. This rich state space and the cross-equation restrictions allow the authors to characterize various leading/lagging relationships. Econometrically, estimation of such a model is made tractable by applying Gibbs sampling techniques. The authors combine a multinomial probit model with a time-varying transition probability Markov-switching model, and use the Gibbs sampler to estimate the unobserved latent variables that track the business cycles in a number of countries. Building on previous research, the authors extend the state space of the

underlying data generating process and ascertain the marginal posterior distributions with the Gibbs sampler. Issues of model specification, estimation, and convergence of the Gibbs sampler are highlighted.

**Fisher, Jonas D. M.**

PD May 1994. TI Credit Market Imperfections and the Heterogeneous Response of Firms to Monetary Shocks. AA University of Western Ontario. SR University of Western Ontario Department of Economics Research Report: 9410; Department of Economics, Social Sciences Center, University of Western Ontario, London, Ontario, CANADA N6A 5C2. PG 33. PR \$10.00. JE E32, E44, E51. KW Limited Participation. State Verification. Monetary Transmission Mechanism.

AB This paper seeks to account for three pieces of empirical evidence on the heterogeneous response of firms to monetary contractions: (i) borrowing by small firms falls relative to large firms, (ii) sales by small firms falls relative to large firms, and (iii) the spread between interest rates paid by bank-dependent versus non-bank-dependent firms rises. This evidence has been interpreted by several authors as supportive of theories of the monetary transmission mechanism that emphasize frictions in credit markets. I describe a quantitative dynamic general equilibrium monetary model in which two particular credit market frictions play key roles: limited participation and costly state verification. After its parameters are identified from U.S. data the model is found to be consistent with these empirical findings as well as other evidence on the response of the economy to monetary shocks.

TI Algorithms for Solving Dynamic Models With Occasionally Binding Constraints. AU Christiano, Lawrence; Fisher, Jonas D. M.

**Flandreau, Marc**

TI The Geography of the Gold Standard. AU Eichengreen, Barry; Flandreau, Marc.

**Folkerts-Landau, David**

PD June 1994. TI Determining the Value of a Financial Unit of Account Based on Composite Currencies: The Case of the Private ECU. AU Folkerts-Landau, David; Garber, Peter M. AA International Monetary Fund. SR International Monetary Fund Working Paper: WP/94/72; International Monetary Fund, 700 19th Street, Washington, DC 20431. PG 21. PR not available. JE E42, E43, E58, F31. KW Foreign Exchange. Interest Rates. Monetary Policy.

AB Evidence from the past three years indicates that the exchange rate between the private ECU and the official ECU and the official ECU Basket can deviate substantially from par. The value of the private ECU is driven by expectations that a future European Central Bank will enforce par convertibility between the private ECU and the official ECU basket of currencies. Meanwhile, no existing institutional arrangement limits the private ECU's value in terms of the Basket. This paper addresses the question of what determines the values of the private ECU and of private ECU interest rates. We show that an anticipation of a future fixing of the private ECU's value, together with the interest rate setting mechanism of the large-value ECU payment and clearing system, are sufficient to determine its value. The determination of the private ECU exchange rate provides the template for how to determine the value of any private composite currency, such as, for example,

a private SDR.

### Franks, Jeffrey R.

PD September 1994. TI Explaining Unemployment in Spain: Structural Change, Cyclical Fluctuations, and Labor Market Rigidities. AA International Monetary Fund. SR International Monetary Fund Working Paper: WP/94/102; International Monetary Fund, 700 19th Street, Washington, DC 20431. PG 26. PR not available. JE J21, J31, J38, J63, E24. KW Unemployment. Labor Market. Spain.

AB Spain has the most serious and persistent unemployment problem in Europe, with an unemployment rate that reached 24.6 percent in early 1994. This paper explores the characteristics of this unemployment problem, its causes, and provides a brief discussion of recent labor market reform measures and their likely impact. A demographic shift in recent years has produced a large rise in female labor force participation and a decrease in agricultural jobs to which the economy has been unable to adjust. The effects of generous unemployment benefits and the large underground economy may explain 6-12 percentage points of the resulting unemployment, but the remainder must be explained by failures and rigidities in the labor market. The paper presents econometric evidence that unemployment displays hysteresis, and that wages are not responsive to changes in the unemployment rate. This evidence supports the claim that insider-outsider factors and rigidities in the legal structure of the labor market are responsible for much of the high unemployment rate. Recent reforms have improved the functioning of the labor market, but they are unlikely to be sufficient to reduce unemployment to single digit rates without further action.

### Fujishige, Satoru

PD February 1994. TI A Min-Max Theorem for Bisubmodular Polyhedra. AA University of Bonn. SR Universitaet Bonn Sonderforschungsbereich 303 - Discussion Paper: 94818; Sonderforschungsbereich 303 an der Universitaet Bonn, Adenauerallee 24-42, D-5300 Bonn 1, DEUTSCHLAND. PG 15. PR no charge. JE C44. KW Bisubmodular Polyhedra. Min-Max Theorem. Integer Valuation. Separable Convex Optimization Problem.

AB no available.

TI On Structures of Bisubmodular Polyhedra. AU Ando, Kazutoshi; Fujishige, Satoru.

TI The Minimum-Weight Ideal Problem for Signed Posets. AU Ando, Kazutoshi; Fujishige, Satoru; Nemoto, Toshio.

### Funkhouser, Edward

PD December 1994. TI Labor Market Adjustment to Political Conflict: Changes in the Labor Market in El Salvador during the 1980's. AA University of California, Santa Barbara. SR University of California, Santa Barbara Working Papers in Economics: 20-94; Working Paper Coordinator, Department of Economics, University of California, Santa Barbara, CA 93106. PG 21. PR no charge. JE J21, J31, O54. KW Labor Market. Developing Countries. El Salvador.

AB Political and military conflict has been an important part of the recent history of many developing countries. In this paper I examine the effects of political conflict on the labor

market in El Salvador using household survey data for the period 1985 to 1992. The main findings concerning the direct effects of conflict are not surprising: there have been significant effects of conflict on the regional distribution of employment and on internal migration in the areas directly affected, especially during the period of initial conflict 1978 to 1985. But for other labor market outcomes--labor force participation, self-employment, wages, and international migration there are not significantly different patterns in regions directly affected by the conflict. Because conflict affects government spending and macroeconomic conditions, the main effects of conflict on these outcomes occur not in the areas directly affected, but in other regions of the country.

PD December 1994. TI Changes in the Returns to Education in Costa Rica. AA University of California, Santa Barbara. SR University of California, Santa Barbara Working Papers in Economics: 21-94; Working Paper Coordinator, Department of Economics, University of California, Santa Barbara, CA 93106. PG 23. PR no charge. JE J24, J31, I21, O15, O54. KW Returns to Education. Costa Rica. Human Capital.

AB In Costa Rica, during the period from the late 1970's to the mid- 1980's, the return to education fell by about one-fourth. I examine the determinants of the changes in the returns to education over time with constructed demand and supply indices utilizing a fixed coefficients framework. An index of the real minimum wage, and the inflation rate are used as independent variables. The net demand for educated workers alone explains approximately 70 percent of the annual variation of the returns to education over the period from 1976 to 1992. The observed patterns indicate that although the underlying determinants of supply and demand for skilled labor are quite different in developing countries, the returns to education in developing countries are quite responsive to changes in the conditions of supply and demand for skilled labor. In particular, during the early 1980's and the period of greatest increase in the returns to education in the United States, Costa Rica, like many Latin American countries, was implementing a stabilization program that led to a reduction in the demand for skilled labor and an increase in the supply of education at the higher levels.

PD December 1994. TI The Urban Informal Sector in Central America: Household Survey Evidence. AA University of California, Santa Barbara. SR University of California, Santa Barbara Working Papers in Economics: 23-94; Working Paper Coordinator, Department of Economics, University of California, Santa Barbara, CA 93106. PG 25. PR no charge. JE J31, O54, O17. KW Informal Sector. Central America. Wages.

AB I utilize the recently available household surveys in the five Spanish-speaking countries of Central America to examine patterns of employment and the structure of wages in the formal and informal sectors. This is one of the first studies to use cross-country comparisons to examine competing views of informal sector employment. There are five main findings from this study. First, the informal sector--whether a refuge sector or a dynamic sector--is a significant part of the labor force in each of the Central American countries, with the size being inversely related to the level of development of the country. Second, there are quite distinct patterns of selection into the labor force for males and females. For males, non-workers tend to have skill characteristics similar to workers employed in the informal sector. Third, there are clear patterns in sector of

employment--the informal sector is disproportionately the youngest, the oldest, the least educated, and female. In addition, informal sector employment is more closely related to household composition for females than for males. Fourth, there are substantial returns to human capital variables in the informal sector in each country. This finding provides evidence in favor of the dynamic sub-sector of the informal labor market. And Fifth, the male-female wage differential is consistently higher in the informal sector than in the formal sector in each country.

**PD** December 1994. **TI** The Sources of Hourly Earnings Variation in the Large-Scale Sector of Guatemala. **AA** University of California, Santa Barbara. **SR** University of California, Santa Barbara Working Papers in Economics: 24-94; Working Paper Coordinator, Department of Economics, University of California, Santa Barbara, CA 93106. **PG** 17. **PR** no charge. **JE** J31, O54, C21. **KW** Wage Dispersion. Labor Market. Skills.

**AB** I utilize a unique firm-based data set from the Ministry of Labor in Guatemala to examine the determinants of across-firm and within-firm variation in hourly earnings. Approximately one-half to three-fifths of overall variation in hourly earnings is accounted for by variation in firm means. Though industry is the most important contributor to across-firm variation, other observable firm characteristics (particularly firm size) and unobservable firm characteristics (measured as a residual) are also important. Within firms, the most important determinant of variation in hourly earnings are skill (education or occupation).

**PD** December 1994. **TI** Demand-Side and Supply-Side Explanations for Barriers to Labor Market Mobility in Developing Countries: The Case of Guatemala. **AA** University of California, Santa Barbara. **SR** University of California, Santa Barbara Working Papers in Economics: 25-94; Working Paper Coordinator, Department of Economics, University of California, Santa Barbara, CA 93106. **PG** 25. **PR** no charge. **JE** J31, J42, O17. **KW** Demand. Supply. Barriers to Mobility. Guatemala.

**AB** The hypothesis of labor market segmentation is based on barriers to mobility between jobs. Because information about barriers to mobility is limited, tests of the segmentation hypothesis examine whether the implications of restricted mobility, most often unequal reward structures across sectors, are observed in the data. But since there are many explanations for unequal reward structures across sectors, it is necessary to examine whether the pattern of differences across sectors is consistent with the primary explanations for restrictions on mobility in order to fully test the segmentation hypothesis. In this paper, I show that traditional tests indicate that there are substantial differences in reward structures across sectors in the Guatemalan labor market. I then examine the potential importance of four main explanations for segmentation--government employment practices, industry differentials and efficiency wages, minimum wages, and unionization. Though these demand-side explanations are consistent with some of the observed differences in wage structures across sectors, there is not strong evidence in favor of segmentation as the sole cause of wage differentials. I also show that there exists correlation between sector of employment of working household members that cannot be explained by demand-side theories of segmentation alone. These patterns suggest that supply-side factors must also be part of any explanation of the allocation of workers between sectors in the labor markets of developing countries.

### Galbis, Vicente

**PD** September 1994. **TI** Sequencing of Financial Sector Reforms: A Review. **AA** International Monetary Fund. **SR** International Monetary Fund Working Paper: WP/94/101; International Monetary Fund, 700 19th Street, Washington, DC 20431. **PG** 21. **PR** not available. **JE** E52, E58, G18, G28. **KW** Economic Reform. Financial Markets.

**AB** This paper provides a review of the literature on both analytical issues and country experiences on the sequencing of financial sector reforms. It discusses the choice between big-bang and gradual reforms, the relationships of financial sector reforms to other economic reforms, the internal sequencing of financial sector measures and the influence of initial conditions. It is concluded that a pragmatic approach to the sequencing issue is necessary as there are only a few general principles valid for all countries.

### Gale, John

**PD** October 1994. **TI** Learning to be Imperfect: The Ultimatum Game. **AU** Gale, John; Binmore, Kenneth; Samuelson, Larry. **AA** Gale and Samuelson: University of Wisconsin. Binmore: University College London. **SR** University College London Discussion Paper: 94-14; Department of Economics, University College London, Gower Street, London WC1E 6BT, ENGLAND. **PG** 40. **PR** 3.00 pounds; checks payable to Department of Economics, University College London. **JE** C92, C72, D83. **KW** Ultimatum Game. Evolutionary Game Theory.

**AB** Why do subjects in Ultimatum Game experiments not play according to the subgame-perfect prediction? This paper suggests an answer based on a study of an evolutionary model of learning.

### Galetovic, Alexander

**PD** August 1994. **TI** Finance and Growth: A Synthesis and Interpretation of the Evidence. **AA** Board of Governors of the Federal Reserve System. **SR** Board of Governors of the Federal Reserve System International Finance Discussion Paper: 477; Board of Governors of the Federal Reserve System, Division of International Finance, Washington, DC 20551. **PG** 33. **PR** no charge. **JE** E44, G21, O16, O42. **KW** Incentive Frictions. Intermediated Loans. Financial Development. Long-Run Growth.

**AB** Evidence is reviewed suggesting that: (a) in market economies financial systems develop and attain maturity during the early stages of industrialization; (b) frictions caused by asymmetric information and the incompleteness of contracts are important in credit markets, and intermediaries play an important role in overcoming them; (c) for a large cross-section of countries financial indicators correlate positively with growth. It is argued that financial intermediaries matter for growth because they moderate the negative effects of incentive frictions, thereby reducing the costs of financing the accumulation of intangible assets like commercial and technical knowledge.

### Gali, Jordi

**PD** July 1993. **TI** Expectations-Driven Spatial Fluctuations. **AA** Columbia University. **SR** Columbia PaineWebber Working Paper Series in Money, Economics and Finance: PW-93-03; PaineWebber Series, 6N Uris Hall, Columbia University, New York, NY 10027. **PG** 20.

**PR** \$5.00 academics and non-profit institutions; \$6.00 corporations (add \$1.00 outside U.S., Canada and Puerto Rico). **JE** D84, L13, L16, R1. **KW** Dynamic Equilibrium. Monopolistic Competition. Rational Expectations.

**AB** We develop a dynamic spatial model with monopolistic competition, increasing returns and labor mobility. Even when shocks to preferences or technology are absent, rational expectations equilibria characterized by stationary random fluctuations in the spatial allocation of resources are shown to exist. Such fluctuations result from the interaction between forward looking location decisions and the agglomeration/congestion economies implied by our assumptions on market structure and preferences. Welfare losses result from the unnecessary randomness of equilibrium allocations along such equilibria.

**PD** July 1993. **TI** Multiple Equilibria in a Growth Model With Monopolistic Competition. **AA** Columbia University. **SR** Columbia PaineWebber Working Paper Series in Money, Economics and Finance: PW-93-04; PaineWebber Series, 6N Uris Hall, Columbia University, New York, NY 10027. **PG** 26. **PR** \$5.00 academics and non-profit institutions; \$6.00 corporations (add \$1.00 outside U.S., Canada and Puerto Rico). **JE** L13, O16. **KW** Capital. Growth. Monopolistic Competition. Nonstationary Equilibrium. Stationary Equilibrium.

**AB** We modify the standard neoclassical growth model by introducing a market structure characterized by monopolistic competition and endogenous markups. We show how demand conditions, through their effect on markups, can affect the economy's growth dynamics, hindering or enhancing capital accumulation. In our model the elasticity of the demand schedule faced by a typical firm depends on the aggregate savings rate. The latter feature results from a wedge between the elasticity of substitution across goods in productive activities and that in consumption. When the demand elasticity is constant or inversely related to the savings rate the equilibrium dynamics are shown to be qualitatively identical to those found in the standard neoclassical growth model: there is a unique stationary equilibrium which is saddle-point stable. In contrast, when the demand elasticity is positively related to the savings rate, multiple stationary equilibria (as well as multiple nonstationary equilibrium paths converging to them) emerge for some parameter values. In the latter case, the model can account for permanent differences in per capita income across homogeneous economies (even when the initial conditions are identical), as well as the absence of capital flows from rich to poor countries.

### Gans, Joshua

**TI** The Allocation of Decisions in Organizations. **AU** Athey, Susan; Gans, Joshua; Schaefer, Scott; Stern, Scott.

### Garber, Peter M.

**TI** Determining the Value of a Financial Unit of Account Based on Composite Currencies: The Case of the Private ECU. **AU** Folkerts-Landau, David; Garber, Peter M.

### Garratt, Rod

**PD** July 1994. **TI** Optimum College Admissions, Taxes, and Tuitions When Completion is Uncertain. **AU** Garratt, Rod; Marshall, John M. **AA** University of California, Santa Barbara. **SR** University of California, Santa Barbara Working Papers in Economics: 10-94; Working Paper

Coordinator, Department of Economics, University of California, Santa Barbara, CA 93106. **PG** 12. **PR** no charge. **JE** C61, D81, D84, I22. **KW** Indivisibility. Insurance. College. Education. Completion. Achievement.

**AB** A family considers whether it might, at a point in the future, send its child to college. At that future point, it will take account of the child's pre-college achievement, on the basis of that it will estimate the potential gain in human capital and the probability of completion, and it will consider the cost. Years before it reaches this decision point, however, it views pre-college achievement as a random variable. Moreover, the risk in pre-college achievement is a risk that can be insured. The contract theory of educational finance considers optimum insurance contracts for this risk and views public finance of college education as providing the insurance. The central result is the achievement theorem, which characterizes the cut-off level of achievement and leads to conditions on optimum taxes and fees.

**PD** August 1994. **TI** Indivisibilities, Gambles and Giffen Goods. **AA** University of California, Santa Barbara. **SR** University of California, Santa Barbara Working Papers in Economics: 11-94; Working Paper Coordinator, Department of Economics, University of California, Santa Barbara, CA 93106. **PG** 11. **PR** no charge. **JE** D11, D41, D43. **KW** Indivisibilities. Gambles. Giffen Goods.

**AB** This paper examines a source of Giffen behavior that is implicit in a passage by Hicks (A Revision of Demand Theory, 2nd Ed., 1959, p.66); namely indivisibility. Necessary and sufficient conditions are given under which the presence of an indivisible good leads to a positive price effect for the divisible good. According to the standard analysis the individual good cannot be a Giffen good. However, it is shown that if the consumer is allowed to undertake gambles in money before choosing her consumption then her expected demand curve for the indivisible good may slope upwards.

**PD** August 1994. **TI** Triage, Efficacy of Medical Treatment, and Optimum Health Insurance. **AU** Garratt, Rod; Marshall, John M. **AA** University of California, Santa Barbara. **SR** University of California, Santa Barbara Working Papers in Economics: 12-94; Working Paper Coordinator, Department of Economics, University of California, Santa Barbara, CA 93106. **PG** 19. **PR** no charge. **JE** G22, I11, I18. **KW** Triage. Efficacy. Health Insurance. Supplemental Coverage.

**AB** The paper characterizes the treatments included in or excluded from an optimum policy of health insurance. Because consumer preferences are state-dependent and the treatments are indivisible, there is a different non-concave utility in each state of ill health. Included treatments are those that have efficacy above a critical minimum. The consumer views these treatments ex ante as having sufficient benefit relative to the marginal increase in the fair insurance premium. Treatments for some illnesses are excluded because the consumer is ex ante unwilling to pay for them. In this view, supplementary insurance would supply treatments demanded by some consumers but excluded in the national health insurance program.

**PD** August 1994. **TI** Insurable Interest, Options to Convert and Demand for Maximums in Optimum Property Insurance. **AU** Garratt, Rod; Marshall, John M. **AA** University of California, Santa Barbara. **SR** University of California, Santa Barbara Working Papers



in Economics: 13-94; Working Paper Coordinator, Department of Economics, University of California, Santa Barbara, CA 93106. PG 19. PR no charge. JE C61, G22. KW Insurable Interest. Insurance Maximums. Conversion Optima. Moral Hazard.

AB The paper describes a demand-based theory of insurance maximums. Maximums are demanded because the consumer has options to convert damaged property rather than merely to restore it to its previous condition. Financial transactions costs increase maximum coverage above the level that emerges with perfect markets. When real estate transactions are costly, binding maximums are again demanded, and the precise level depends upon constraints that are necessary to assure incentive compatibility and limit moral hazard. In the absence of transactions costs, finding the optimum maximum is equivalent to finding the insurable interest. In each of the cases with transactions costs, a generalization of insurable interest is defined by the factors that determine the demand for a binding maximum.

### Gehrig, Thomas

PD November 1994. TI Bid-Ask Spreads With Indirect Competition Among Specialists. AU Gehrig, Thomas; Jackson, Matthew O. AA Gehrig: Universitat Basel. Jackson: Northwestern University and California Institute of Technology. SR Northwestern University Center for Mathematical Studies in Economics and Management Science Discussion Paper: 1107; Northwestern University, 2001 Sheridan Road, 3-014 Leverone Hall, Evanston, IL 60208-2014. PG 16. PR \$3.00 in U.S. and Canada; \$5.00 via international mail; \$2.00 for local Northwestern faculty/students. JE G11, G12, D43. KW Bid-Ask Spreads. Specialists. Security Pricing. Stock Markets.

AB We examine the bid-ask quotes offered by specialists (or dealers) who face indirect competition from other specialists who trade in related assets. We show how the equilibrium bid-ask spread depends on the correlation of the assets as well as the initial portfolio holdings. We also compare these spreads to those which arise if the specialists coordinate their spreads (jointly maximize the sum of their revenues). It is shown that for some correlation structures and initial portfolio holdings it is socially preferred to have competing specialists, while for others it is socially preferred to have their actions coordinated. This rests on whether the assets trade as substitutes or complements, which ultimately depends on the correlation structure of the assets and the initial portfolio holdings.

### Gerson, Philip R.

PD August 1994. TI Tuition Subsidies in a Model of Economic Growth. AA International Monetary Fund. SR International Monetary Fund Working Paper: WP/94/100; International Monetary Fund, 700 19th Street, Washington, DC 20431. PG 18. PR not available. JE I28, O15, O41. KW Education. Growth. Human Capital.

AB This paper examines a two-sector aggregative growth model with human capital and educated unemployment. In the model, a tuition subsidy may lead to a long-run decline in the educated fraction of the population, because it may decrease the long-run per capita stock of physical capital in the economy, tending to reduce the output of the education sector and the incentives for workers to enroll in school. Thus, cuts in education subsidies undertaken by countries in Africa for

adjustment reasons may actually lead to long-run increases in the educational attainment of their populations.

### Geweke, John

PD May 1994. TI Alternative Computational Approaches to Inference in the Multinomial Probit Model. AU Geweke, John; Keane, Michael; Runkle, David. AA Federal Reserve Bank of Minneapolis and University of Minnesota. SR Federal Reserve Bank of Minneapolis Staff Report: 170; Research Department, Federal Reserve Bank of Minneapolis, 250 Marquette Ave., Minneapolis, MN 55401. PG 31. PR no charge. JE C34, C15. KW Data Augmentation. GHK Simulator. Gibbs Sampling. Kernel Smoothing.

AB This research compares several approaches to inference in the multinomial probit model, based on Monte-Carlo results for a seven choice model. The experiment compares the simulated maximum likelihood estimator using the GHK recursive probability simulator, the method of simulated moments estimator using the GHK recursive simulator and kernel-smoothed frequency simulators, and posterior means using a Gibbs sampling-data augmentation algorithm. Each estimator is applied in nine different models, which have from 1 to 40 free parameters. The performance of all estimators is found to be satisfactory. However, the results indicate that the method of simulated moments estimator with the kernel-smoothed frequency simulator does not perform quite as well as the other three methods. Among those three, the Gibbs sampling-data augmentation algorithm appears to have a slight overall edge, with the relative performance of MSM and SML based on the GHK simulator difficult to determine.

PD July 1994. TI Statistical Inference in the Multinomial Multiperiod Probit Model. AU Geweke, John; Keane, Michael; Runkle, David. AA Geweke and Runkle: Federal Reserve Bank of Minneapolis and University of Minnesota. Keane: Federal Reserve Bank of Minneapolis. SR Federal Reserve Bank of Minneapolis Staff Report: 177; Research Department, Federal Reserve Bank of Minneapolis, 250 Marquette Ave., Minneapolis, MN 55401. PG 30. PR no charge. JE C25, C33. KW Method of Simulated Moments. Maximum Likelihood. Gibbs Sampling. Data Augmentation. GHK Simulator.

AB Statistical inference in multinomial multiperiod probit models has been hindered in the past by the high dimensional numerical integrations necessary to form the likelihood functions, posterior distributions, or moment conditions in these models. We describe three alternative approaches to inference that circumvent the integration problem: Bayesian inference using Gibbs sampling and data augmentation to compute posterior moments, simulated maximum likelihood (SML) estimation using the GHK recursive probability simulator, and method of simulated moments (MSM) estimation using the GHK simulator. We perform a set of Monte-Carlo experiments to compare the performance of these approaches. Although all the methods perform reasonably well, some important differences emerge. The root mean square errors (RMSE's) of the SML parameter estimates around the data generating values exceed those of the MSM estimates by 21 percent on average, while the RMSE's of the MSM estimates exceed those of the posterior parameter means obtained via Gibbs sampling by 18 percent on average. While MSM produces a good agreement between empirical RMSE's and asymptotic standard errors, the RMSE's of the SML estimates exceed the asymptotic standard errors by 28 percent on average. Also, the SML estimates of

serial correlation parameters exhibit significant downward bias.

### Ghura, Dhaneshwar

TI Effects of Macroeconomic Stability on Growth, Savings, and Investment in Sub-Saharan Africa: An Empirical Investigation. AU Hadjimichael, Michael T.; Ghura, Dhaneshwar; Muhleisen, Martin; Nord, Roger; Ucer, E. Murat.

### Gilboa, Itzhak

PD June 1994. TI Reaction to Price Changes and Aspiration Level Adjustments. AU Gilboa, Itzhak; Schmeidler, David. AA Gilboa: Northwestern University. Schmeidler: Tel Aviv University and Ohio State University. SR Northwestern University Center for Mathematical Studies in Economics and Management Science Discussion Paper: 1110; Northwestern University, 2001 Sheridan Road, 3-014 Leverone Hall, Evanston, IL 60208-2014. PG 9. PR \$3.00 in U.S. and Canada; \$5.00 via international mail; \$2.00 for local Northwestern faculty/students. JE D11, D83, M31, M37. KW Aspiration Level. Demand Curve. Reservation Price. Case-Based Decision Theory.

AB We claim that preferences of economic agents cannot be assumed given; rather, they are partly determined by the process of trade in the market, by information about the latter, and so forth. In other words, preferences determine actions which, in turn, determine preferences. Thus classical tools of analysis, such as the neo-classical utility function and the demand curve, should be viewed merely as first approximations, which are too simplistic for many purposes. Changing preferences are not restricted to such phenomena as addiction, advertisement, and so forth. Rather, for any product a satisfying consumer has an aspiration level, which is subject to change. The consumer's preferences, as reflected in choice behavior, will also change once the aspiration level is adjusted. We illustrate these claims by analyzing two examples concerning consumer reaction to price increases. We analyze the effect of aspiration level adjustments on the dynamic pattern of a single consumer's demand, and show that such adjustments generate predictions which do not conform to the neoclassical theory.

### Glasserman, Paul

TI Estimating Security Price Derivatives Using Simulation. AU Broadie, Mark; Glasserman, Paul.

### Gollin, Douglas

TI Genetic Resources, International Organizations and Rice Varietal Improvement. AU Evenson, Robert E.; Gollin, Douglas.

### Golob, John E.

PD November 1994. TI Has Inflation Become More Predictable? AA Federal Reserve Bank of Kansas City. SR Federal Reserve Bank of Kansas City Research Working Paper: 94-07; Research Division, Federal Reserve Bank of Kansas City, 925 Grand Blvd., Kansas City, MO 64198. PG 11. PR no charge. JE E31, E03. KW Inflation. Uncertainty. Bretton Woods. Energy Prices.

AB Inflation uncertainty, as measured by the innovations in econometric models, has been declining over the last forty years. This paper presents evidence that uncertainty has been declining in both core CPI and the GDP deflator. A continuous decline fits the data better than either the 1960 or the 1971

regime shift hypothesized in previous research. This result challenges the view that the collapse of the Bretton Woods exchange rate agreement led to greater monetary accommodation of inflation shocks. The decline in uncertainty does not extend to CPI or PPI, however, because energy prices have more weight in these indices and the volatility of energy prices has increased in recent decades.

### Gordon, Stephen F.

PD May 1994. TI Bayesian Evaluation of Preference Specifications. AU Gordon, Stephen F.; Samson, Lucie; Carmichael, Benoit. AA Universite Laval. SR Universite de Lausanne Cahiers de Recherches Economiques: 9406; Departement d'Econometrie et d'Economie Politique, Univerite de Lausanne, BFSH1 - Dorigny, CH-1015 Lausanne, SWITZERLAND. PG 36. PR no charge. JE C11, G11, G12. KW Bayesian Econometrics. Asset Pricing. Volatility Bounds.

AB Using asset market data from the Toronto Stock Exchange and using the restrictions imposed by a representative agent's dynamic optimization problem we apply Bayesian econometric techniques to estimate posterior distributions for the intertemporal marginal rate of substitution at each data point. These distributions can then be used to evaluate various parametric specifications for preferences often used in empirical studies of consumption and asset returns. Given the lack of success of the constant relative risk aversion utility specification to solve the "equity premium" and the "risk free rate" puzzles, we examine three extensions proposed in the literature: incorporating durable goods in the utility function, allowing for time nonseparabilities and relaxing the constraints imposed by the hypothesis that agents maximise expected utility. In contrast to existing studies, we are able to perform formal non-nested hypothesis tests. Our results indicate that of the three models considered, the non-expected specification receives the greatest support from the data.

TI International Co-Movements of Business Cycles. AU Filardo, Andrew J.; Gordon, Stephen F.

### Gottardi, Piero

PD June 1994. TI The Survival Assumption and Existence of Competitive Equilibria When Asset Markets are Incomplete. AU Gottardi, Piero; Hens, Thorsten. AA Gottardi: University of Venice. Hens: University of Bonn. SR Universitaet Bonn Sonderforschungsbereich 303 - Discussion Paper: A- 450; Sonderforschungsbereich 303 an der Universitaet Bonn, Adenauerallee 24-42, D-5300 Bonn 1, DEUTSCHLAND. PG 25. PR no charge. JE D52, C62, G10. KW Incomplete Markets. Existence. Resource Relatedness.

AB The paper studies the role and the formulation of the survival assumption with incomplete markets. We are able to show the existence of a competitive equilibrium when the agents' endowments lie on the boundary of their consumption set. However, for this some additional assumptions with respect to the complete market case are needed. These are joint restrictions on the asset structure and the distribution of the endowments and preferences. In the second part of the paper a precise characterization of these conditions is provided, and it is shown that our findings allow a substantial improvement upon earlier results in the literature.

**Goulder, Lawrence H.**

**TI** Assessing the International Spillover Effects of Capital Income Taxation. **AU** Thalmann, Philippe; Goulder, Lawrence H.; Delorme, Francois.

**Gozalo, Pedro L.**

**PD** June 1994. **TI** Nonparametric Testing in High Dimensional Spaces via Data-Dependent Partitioning. **AA** Brown University. **SR** Brown University Department of Economics Working Paper: 94-17; Department of Economics, Brown University, Providence, RI 02912. **PG** 58. **PR** no charge. **JE** C12, C14, C52. **KW** Consistent Testing. High Dimensional Covariates Space. Nonparametric Specification Testing. Regression Trees. Vapnik-Cervonenkis Class.

**AB** This paper considers a general framework for constructing consistent specification tests for parametric and semiparametric regression models via data-dependent partitioning. Tests based on regression trees partitioning are given special attention. These tests have improved performance over existing tests when there are a large number of covariates present relative to the available sample size. It is expected that these tests will contribute significantly to the number of empirical cases where consistent specification testing can be feasibly applied.

**TI** Local Nonlinear Least Squares Estimation: Using Parametric Information Non-Parametrically. **AU** Linton, Oliver B.; Gozalo, Pedro L.

**Green, Gordon R.**

**PD** May 1993. **TI** Incomplete Information Cores: An Insurance Example. **AA** University of Western Ontario. **SR** University of Western Ontario Department of Economics Research Report: 9412; Department of Economics, Social Sciences Center, University of Western Ontario, London, Ontario, CANADA N6A 5C2. **PG** 10. **PR** \$10.00. **JE** C72, D82, D81. **KW** Core. Incomplete Information. Separating Contracts. Pooling Contracts.

**AB** We study the core of an insurance economy based on the Rothschild and Stiglitz (1976) model. The core is characterized by the set of sustainable insurance contracts. Feasible insurance contracts satisfy resource and incentive feasibility constraints given the distribution of types in the economy. Alternative insurance markets must specify, for each distribution of types, a set of contracts that satisfy resource and incentive feasibility constraints. A set of contracts is sustainable if for some distribution of types there is no resource and incentive feasible set of contracts that is preferred by any agent. The standard set of separating contracts are shown to be sustainable, and pooling contracts are shown to be not sustainable.

**Green, J.**

**TI** Recent Fiscal Developments in the European Countries of the G-7. **AU** O'Callaghan, G.; Habermeier, K.; Green, J.; Henry, S. G. B.; Violi, R.

**Gregg, Paul**

**PD** March 1994. **TI** Is the Glass Ceiling Cracking? Gender Compensation Differentials and Access to Promotion Among UK Executives. **AU** Gregg, Paul; Machin, Stephen. **AA** Gregg: London School of Economics. Machin: University College London and London School of Economics.

**SR** University College London Discussion Paper: 94-05; Department of Economics, University College London, Gower Street, London WC1E 6BT, ENGLAND. **PG** 41. **PR** 3.00 pounds; checks payable to Department of Economics, University College London. **JE** J16, J31, J44. **KW** Executives. Compensation. Promotion. Glass Ceiling.

**AB** This paper uses unique data on just over 29,000 top executives working in 533 UK based companies over the years 1989 to 1992 to examine gender related pay gaps and promotion differences in top jobs. The use of a fairly homogeneous sample, where long-term career commitment is clearly common to both men and women, offers a useful insight into the extent to which women have made it to the top echelons of corporate Britain. Our results strongly suggest that there is scant evidence that they have made this progression: (i) There are far fewer women working in top jobs in British management. Only 8% of top executives in the sample are female and their relative shares fall dramatically as one moves towards the top of the corporate hierarchy. (ii) Compensation is significantly lower for women who do the same jobs as men, even within the same company. There is some variation in this by job status, such that the largest pay gap is at the extreme top of the corporate structure. (iii) We can find no evidence that the under-representation of women is likely to be ameliorated over time as the probability of promotion is no higher (and sometimes significantly lower) for women top executives. Contrary to claims made by some commentators, women do not appear to be increasing their relative employment share in top jobs in corporate Britain. In our data there are no promotions of women to the highest jobs in the corporate hierarchy. There does appear to be a glass ceiling blocking the promotion of women to the highest jobs and it does not appear to be cracking.

**Grossman, Herschel I.**

**PD** December 1994. **TI** Predation and Production. **AU** Grossman, Herschel I.; Kim, Minseong. **AA** Brown University. **SR** Brown University Department of Economics Working Paper: 94-27; Department of Economics, Brown University, Providence, RI 02912. **PG** 17. **PR** no charge. **JE** D23, D31, D74. **KW** Predation. Appropriation. General Equilibrium.

**AB** This paper studies the appropriative interaction between a prey who tries to protect its own resources and a potential predator who tries to appropriate the resources of the prey. The analytical framework is a general equilibrium model of the allocation of resources between appropriative and productive activities with the security of the prey's claim to its property being determined endogenously according to relative amounts of predatory activity and defense against predation. The analysis focuses on the possibility of an equilibrium with pure predation, in which the predator allocates all of its initial resource endowment to predatory activity without engaging in any production. We find that an equilibrium with pure predation obtains if the initial endowment of the predator is relatively small and the technology of predation is such that offensive weapons are neither too effective nor too ineffective against defensive fortifications. We also find that the security of the prey's claim to its own property is weakly decreasing in the effectiveness of offensive weapons against defensive fortifications. The welfare analysis reveals that the greater the effectiveness of offensive weapons against defensive fortifications the worse off is the prey whether or not the

equilibrium involves predation.

### Grubb, Farley

PD January 1995. TI Withering Heights: Did Indentured Servants Shrink From Their Encounter with Malthus? AA University of Delaware. SR University of Delaware Department of Economics Working Paper: 94-19; College of Business and Economics, Department of Economics, University of Delaware, Newark, Delaware 19716-2720. PG 13. PR not available. JE N31, N33, C22. KW Indentured Servants. Malthus. Estimation Error.

AB Heights of runaway British servants advertised in eighteenth-century colonial American newspapers previously were estimated to have a declining secular trend. This trend has been used to infer that England experienced a Malthusian crisis just prior to industrial revolution. I show that this data suffers from errors in variables that bias the trend estimate downwards. When corrected for these errors, the re-estimated trend is no longer negative, but positive. Thus, the data cannot support the claim that England experienced a Malthusian crisis during the eighteenth century.

### Gunby, Philip

TI Sprayed to Death: Pest Control Strategies and Technological Lock-In. AU Cowan, Robin; Gunby, Philip.

### Gylfason, Thorvaldur

PD June 1994. TI The Path of Output From Plan to Market. AA University of Iceland, University of Stockholm, Centre for Economic Policy Research and International Monetary Fund. SR International Monetary Fund Working Paper: WP/94/71; International Monetary Fund, 700 19th Street, Washington, DC 20431. PG 19. PR not available. JE E23, E31, P21. KW Stabilization. Production. Inflation. Structural Change.

AB This paper is intended to clarify the contribution of macroeconomic stabilization and structural adjustment to the transformation from plan to market in Central and Eastern Europe and elsewhere. Four main points emerge. First, increased price stability improves the utilization of capital and thus increases the level of output at full employment in the long run, even though output decreases initially. Second, the static output gain from stabilization is captured in a simple formula in which the gain is approximately proportional to the square of the original inflation distortion. Third, successful stabilization increases the rate of growth of output per head, and not only its level, in the presence of constant returns to capital in a broad sense. Fourth, substitution of plausible parameter estimates into the simple formulae reflecting the gains from stabilization indicate that the static and dynamic output gains can be quite large.

### Haas, Richard D.

TI Establishing Monetary Control in Financial Systems With Insolvent Institutions. AU Mathieson, Donald J.; Haas, Richard D.

### Habermeier, K.

TI Recent Fiscal Developments in the European Countries of the G-7. AU O'Callaghan, G.; Habermeier, K.; Green, J.; Henry, S. G. B.; Violi, R.

### Hadjimichael, Michael T.

PD August 1994. TI Effects of Macroeconomic Stability on Growth, Savings, and Investment in Sub-Saharan Africa: An Empirical Investigation. AU Hadjimichael, Michael T.; Ghura, Dhaneshwar; Muhleisen, Martin; Nord, Roger; Ucer, E. Murat. AA International Monetary Fund. SR International Monetary Fund Working Paper: WP/94/98; International Monetary Fund, 700 19th Street, Washington, DC 20431. PG 56. PR not available. JE O11, O55, C13. KW Stability. Development. Macroeconomic Performance. Africa.

AB The analysis of this paper indicates that the unsatisfactory overall economic performance of sub-Saharan African countries during 1986-93 was due to inappropriate policies pursued by a number of countries. The countries that have pursued broadly appropriate adjustment policies have performed much better, achieving positive per capita GDP growth. The analysis is supported with an econometric investigation of the effects of macroeconomic policies, structural reforms, and exogenous factors on economic performance. The results indicate that progress in achieving macroeconomic stability and implementing structural reforms have been conducive to better growth, savings, and private investment.

### Hakkio, Craig S.

TI The Distribution of Exchange Rates in the EMS. AU Engel, Charles; Hakkio, Craig S.

PD December 1994. TI Monetary Policy Without Intermediate Targets: Federal Reserve Policy Since 1983. AU Hakkio, Craig S.; Sellon, Gordon H. Jr. AA Federal Reserve Bank of Kansas City. SR Federal Reserve Bank of Kansas City Research Working Paper: 94-14; Research Division, Federal Reserve Bank of Kansas City, 925 Grand Blvd., Kansas City, MO 64198. PG 22. PR no charge. JE E52, E58. KW Monetary Policy. Federal Reserve. Central Banks.

AB Since the demise of the formal use of a monetary aggregate intermediate target in October 1982, the implementation of U.S. monetary policy has been complicated by the lack of an obvious target or indicator variable with which to guide policy. This paper models Federal Reserve behavior over the period 1983-1993 and attempts to determine which variables were influential in monetary policy decisions and whether policy responded systematically to these variables. A feature of the paper is the use of a new measure of monetary policy actions that reflects only explicit policy decisions by the Fed. One of the most interesting results of our work is the finding that monetary aggregates apparently played little or no role in monetary policy during the 1983-1993 period. While we find an increased emphasis on inflation during this period, our results do not identify a single indicator favored by the Fed as a measure of inflationary pressures. Rather, the Fed appears to employ a variety of contemporaneous and leading indicators of inflation. In general, our results also support the view that the Fed's reaction function changes over time both in response to changes in the information content of particular indicators and as a result of changes in FOMC behavior. This suggests that the forecasting value of any particular reaction function estimate is likely to be limited. Finally, in modeling Fed behavior, our results suggest that models that permit discrete policy adjustments and an asymmetric policy response may have greater explanatory power than models which ignore these

features.

### Hambrick, Donald

TI Speed, Stealth, and Selective Attack: How Small Firms Differ From Large Firms in Competitive Behavior. AU Chen, Ming-Jer; Hambrick, Donald.

### Hannan, Timothy H.

TI The Efficiency Cost of Market Power in the Banking Industry: A Test of the 'Quiet Life' and Related Hypotheses. AU Berger, Allen N.; Hannan, Timothy H.

### Hansen, Lars Peter

PD February 1994. TI Assessing Specification Errors in Stochastic Discount Factor Models. AU Hansen, Lars Peter; Jagannathan, Ravi. AA Hansen: University of Chicago, NORC and National Bureau of Economic Research. Jagannathan: University of Minnesota. SR National Bureau of Economic Research Technical Paper: 153; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge MA 02138. PG not available. PR \$5.00. JE G12, G13. KW Asset Pricing. Stochastic Discount Factor. Arbitrage.

AB In this paper we develop alternative ways to compare asset pricing models when it is understood that their implied stochastic discount factors do not price all portfolios correctly. Unlike comparisons based on chi-squared statistics associated with null hypotheses that models are correct, our measures of model performance do not reward variability of discount factor proxies. One of our measures is designed to exploit fully the implications of arbitrage-free pricing of derivative claims. We demonstrate empirically the usefulness of methods in assessing some alternative stochastic factor models that have been proposed in asset pricing literature.

PD September 1994. TI Mechanics of Forming and Estimating Dynamic Linear Economies. AU Hansen, Lars Peter; McGrattan, Ellen; Sargent, Thomas. AA Hansen: University of Chicago. McGrattan: Federal Reserve Bank of Minneapolis. Sargent: University of Chicago and Stanford University. SR Federal Reserve Bank of Minneapolis Staff Report: 182; Research Department, Federal Reserve Bank of Minneapolis, 250 Marquette Ave., Minneapolis, MN 55401. PG 28. PR no charge. JE C61, C63, C13, C32. KW Dynamic Economies. Computing Equilibria. Maximum Likelihood Estimation.

AB This paper catalogues formulas that are useful for estimating dynamic linear economic models. We describe algorithms for computing equilibria of an economic model and for recursively computing a Gaussian likelihood function and its gradient with respect to parameters. We display an application to Rosen, Murphy, and Scheinkman's (1994) model of cattle cycles.

### Happe, Nancy

PD June 1994. TI Military Expenditure and Arms Trade: Alternative Data Sources. AU Happe, Nancy; Wakeman-Linn, John. AA International Monetary Fund. SR International Monetary Fund Working Paper: WP/94/69; International Monetary Fund, 700 19th Street, Washington, DC 20431. PG 17. PR not available. JE E62, F19, H56. KW Military Expenditure. National Security.

AB Analysis of the economic impact of military expenditures

and arms trade is frequently hampered by the limited amount of transparent, comprehensive data. Country-specific information can be supplemented, however, by data from multicountry statistical sources. This paper describes seven publications which provide multicountry statistics on military expenditure and trade--the information each source conveys, as well as the differences in coverage and definition--to assist the analyst in understanding how to use this data. Comparisons of the data reported by the various sources reveal numerous, significant differences, particularly in data on military expenditures.

### Haque, Nadeem U.

TI Macroeconomic Management With Informal Financial Markets. AU Agenor, Pierre-Richard; Haque, Nadeem U.

### Hardy, Daniel C.

PD June 1994. TI Cash Shortage in the Former Soviet Union. AU Hardy, Daniel C.; Lahiri, Ashok K. AA International Monetary Fund. SR International Monetary Fund Working Paper: WP/94/67; International Monetary Fund, 700 19th Street, Washington, DC 20431. PG 31. PR not available. JE E51, F42, P21. KW Cash Shortage. Money Supply. International Policy.

AB An unexpected shortage of banknotes emerged during 1992 in the former Soviet Union. The cash shortage is explained by the asymmetry in the monetary union that prevailed, under which one member (the Russian Federation) controlled banknote production while every member could create deposit money. Interest rate rigidity forestalled an equilibrating adjustment in demand for banknotes. The possible efficiency costs of the cash shortage are explored.

### Harley, C. Knick

PD October 1994. TI Cotton Textile Prices and the Industrial Revolution. AA University of Western Ontario. SR University of Western Ontario Department of Economics Research Report: 9415; Department of Economics, Social Sciences Center, University of Western Ontario, London, Ontario, CANADA N6A 5C2. PG 25. PR \$10.00. JE D24, D43, O33, B15. KW Technological Change. Input Prices.

AB Cotton textile technology defined the British 'Industrial Revolution.' Contemporaries and historians focused heroic or demonic explanations of economic change on the invention of spinning machines, the development of the factory system and the social consequences of the transformed cotton industry. The story of the inventors has long attracted attention but discussion of technological change remains incomplete. Technological change primarily affects a society by making goods cheaper. Even when the secondary social impact of technology brings about profound changes in work and social structure, change occurs because the new way of doing things is cheaper and more profitable. It is surprising, then, that we know little about how prices of cotton textiles changed between the 1760's and the early nineteenth century. Recently, Javier Cuenca Esteban, using partial information and various assumptions, estimates that the price of cotton cloth price fell nearly a third between 1770 and 1801, and nearly a half more by 1815. This implies that prices before the 'Industrial Revolution' were nearly three times their 1815 level, the intervening wartime inflation not withstanding. Better evidence shows, however, that he has greatly exaggerated the extent of the price decline.

**Harrigan, Kathryn Rudie**

PD June 1994. TI Tactics in a Mature Market: Serving Players More Effectively. AA Columbia University. SR Columbia PaineWebber Working Paper Series in Money, Economics and Finance: PW-94-10; PaineWebber Series, 6N Uris Hall, Columbia University, New York, NY 10027. PG 9. PR \$5.00 academics and non-profit institutions; \$6.00 corporations (add \$1.00 outside U.S., Canada and Puerto Rico). JE L13. KW Gambling. Market Segmentation. Monopolistic Competition. Product Differentiation.

AB Increased competition from gambling on Indian reservations, riverboat gambling, off-track betting, and a variety of alternative forms of gaming forced lottery firms to ponder new dimensions by which they could sustain their competitive advantage among players. Although the primary purchasing agent for games (municipal and state governments) is analytically sophisticated, players are not. Hence firms may cope with slowing growth using a mix of careful market segmentation and enhancement of competitive dimensions, such as quality, innovation, variety, time and people.

**Hassel, Bryan**

TI Revamping Public Management: Integrating Comparative Research. AU Barzelay, Michael; Hassel, Bryan.

**Haufler, Andreas**

PD May 1994. TI Tax Coordination in a Cross-Hauling Model: Conflict or Harmony of Interest? AA University of Konstanz and University of Western Ontario. SR University of Western Ontario Department of Economics Research Report: 9411; Department of Economics, Social Sciences Center, University of Western Ontario, London, Ontario, CANADA N6A 5C2. PG 21. PR \$10.00. JE C72, H21, H41. KW Nash Equilibrium. Tax Competition. Public Good. Commodity Taxation.

AB The paper discusses strategic commodity taxation in a model with trade in a single private good, which is simultaneously imported by consumers of a high-tax region and exported by its producers. Sufficient conditions for the existence of a Nash equilibrium are given and an asymmetry is introduced through different preferences for public goods. It is shown that tax coordination generally benefits the high-tax country while the low-tax region will gain only if the intensity of tax competition is high in the initial equilibrium, or if governments are price-sensitive towards the effective marginal costs of public good supply.

**Heal, Geoffrey**

TI International Emission Permits: Equity and Efficiency. AU Chichilnisky, Graciela; Heal, Geoffrey; Starrett, David.

TI Options Values and Endogenous Uncertainty in ESOPs, MBOs and Asset-Backed Loans. AU Chichilnisky, Graciela; Heal, Geoffrey; Tsomocos, D. P.

PD December 1993. TI Valuing the Very Long Run: Discounting and the Environment. AA Columbia University. SR Columbia PaineWebber Working Paper Series in Money, Economics and Finance: PW-93-04; PaineWebber Series, 6N Uris Hall, Columbia University, New York, NY 10027. PG 11. PR \$5.00 academics and non-profit institutions; \$6.00 corporations (add \$1.00 outside U.S., Canada and Puerto Rico). JE D90, Q20. KW Renewable Resource.

Sustainable. Exhaustible Resource. Discounting.

AB There is perception that the discounted utilitarian approach to investment analysis is biased against "sustainable" alternatives and against the long run. To check this, I formulate a model of investment and resource use which captures the essence of several environmental problems, and examine optimal investment profiles in this model under several alternative intertemporal objectives. Examines of related problems are global warming, disposal of nuclear wastes, preservation of biodiversity and the development of alternative energy sources. All have large costs up front: the benefits are well into the future and may continue for ever. I describe the optimal investment levels under three alternative approaches to the short run-long run tradeoff, the discounted utilitarian criterion, maximizing long run utility, and the Chichilnisky criterion which formalizes the concept of "sustainability."

TI Price Uncertainty and Derivative Securities in General Equilibrium. AU Chichilnisky, Graciela; Dutta, J.; Heal, Geoffrey.

TI The Green Golden Rule and Sustainable Growth. AU Beltratti, Andrea; Chichilnisky, Graciela; Heal, Geoffrey.

TI Chaotic Price Dynamics and Increasing Returns. AU Chichilnisky, Graciela; Heal, Geoffrey; Lin, Yun.

TI Property Rights and Returns to Scale: Patents, Firms and Market Failure. AU Chichilnisky, Graciela; Heal, Geoffrey; Pagano, Ugo.

**Heckman, James J.**

TI Making the Most Out of Social Experiments: Reducing the Intrinsic Uncertainty in Evidence From Randomized Trials With an Application to the National JTPA Experiment. AU Clements, Nancy; Smith, Jeffrey; Heckman, James J.

PD June 1994. TI Econometric Mixture Models and More General Models for Unobservables in Duration Analysis. AU Heckman, James J.; Taber, Christopher R. AA Heckman: University of Chicago and National Bureau of Economic Research. Taber: Center for Social Program. SR National Bureau of Economic Research Technical Paper: 157; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge MA 02138. PG not available. PR \$5.00. JE C13, C31, C32, C41. KW Duration Models. Identification. Estimation.

AB This paper considers models for unobservables in duration models. It demonstrates how cross-section and time-series variation in regressors facilitates identification of single-spell, competing risks, and multiple spell duration models. We also demonstrate the limited value of traditional identification studies by considering a case in which a model is identified in the conventional sense but cannot be consistently estimated.

**Heid, Frank**

PD June 1994. TI Testing Increasing Spread When There are Errors in the Data. AA University of Bonn. SR Universitaet Bonn Sonderforschungsbereich 303 - Discussion Paper: A-436; Sonderforschungsbereich 303 an der Universitaet Bonn, Adenauerallee 24-42, D-5300 Bonn 1, DEUTSCHLAND. PG 17. PR no charge. JE D12. KW Increasing Spread. Law of Demand. Income Effect. Sensitivity Analysis of Errors. Bias.

AB The concept of increasing spread was used in Hildenbrand (1993) in order to test the Law of Demand. It was

shown that the average income effect of households' demand is positive. In this paper we analyze the results given there under the assumption that the data contains reporting errors of the interviewed households. In particular, we give a sensitivity analysis of income and expenditure errors. It turns out that the bias of an assumed income error is less crucial than its variance. Much more robust are the estimations to assumed errors in the expenditure data.

### Henry, S. G. B.

TI Recent Fiscal Developments in the European Countries of the G-7. AU O'Callaghan, G.; Habermeier, K.; Green, J.; Henry, S. G. B.; Violi, R.

### Hens, Thorsten

TI The Survival Assumption and Existence of Competitive Equilibria When Asset Markets are Incomplete. AU Gottardi, Piero; Hens, Thorsten.

### Hernandez-Cata, Ernesto

PD September 1994. TI Russia and the IMF: The Political Economy of Macro-Stabilization. AA International Monetary Fund. SR International Monetary Fund Papers on Policy Analysis and Assessment: PPAA/94/20; International Monetary Fund, Washington, DC 20431. PG 21. PR not available. JE E31, E42, P21. KW Stabilization. Inflation. Monetary System.

AB This paper reviews the experience with macroeconomic stabilization in Russia during the 2 1/2 years following the beginning of reforms in January 1992. It focuses on the different perceptions about the nature, the causes, and the consequences of inflation in Russia and about the policies required to deal with it. It recounts the authorities' efforts to control inflation and discusses the major political obstacles to stabilization, including the pressures for subsidized credits, budgetary transfers and tax exemptions and interenterprise arrears. Finally, it examines the role of IMF-supported programs in the process.

### Herruzo, A. Casimiro

TI Measurement of the Total Factor Productivity of Spanish Agriculture: 1962-1989. AU Fernandez, M. Carmen; Herruzo, A. Casimiro; Evenson, Robert E.

### Hess, Gregory D.

PD November 1994. TI The Predictive Failure of the Baba, Hendry and Starr Model of the Demand for M1 in the United States. AU Hess, Gregory D.; Jones, Christopher S.; Porter, Richard D. AA Hess: University of Kansas. Jones: University of Pennsylvania. Porter: Board of Governors of the Federal Reserve System. SR Federal Reserve Bank of Kansas City Research Working Paper: 94-06; Research Division, Federal Reserve Bank of Kansas City, 925 Grand Blvd., Kansas City, MO 64198. PG 23. PR no charge. JE C32, C52, E41, E47. KW Money Demand. Money Supply. Time-Series Analysis.

AB See abstract for Board of Governors of the Federal Reserve System Finance and Economics Discussion Series: 94-34.

PD November 1994. TI The Predictive Failure of the Baba, Hendry and Starr Model of the Demand for M1 in the United States. AU Hess, Gregory D.; Jones, Christopher S.;

Porter, Richard D. AA Hess: University of Kansas. Jones: University of Pennsylvania. Porter: Board of Governors of the Federal Reserve System. SR Board of Governors of the Federal Reserve System Finance and Economics Discussion Series: 94-34; Board of Governors of the Federal Reserve System, C/O Sharon Kozicki, Mail Stop 61, Federal Reserve Board, Washington, DC 20551. PG 23. PR no charge. JE C32, C52, E41, E47. KW Money Demand. Money Supply. Time-Series Analysis.

AB Baba, Hendry, and Starr (1992) attempt to restore a stable specification for the demand for M1 balances in the United States. Estimating an error correction model that simultaneously models the long-run and short-run determinants of money demand, they introduce two new explanatory factors of the demand for M1. First, they provide theoretical and empirical evidence that the volatility of long-term interest rates affects the demand for M1. Second, they introduce an adjusted set of interest rates that allow for learning behavior in response to the introduction of various new accounts for components of M1 and non-M1 M2. Most importantly, they show that their specification passes a large battery of diagnostic tests and performs well during hard-to-model episodes such as the "Missing Money Period." This paper replicates their results and extends their sample range to evaluate its predictive performance. Their model breaks down completely over the longer sample period. This predictive failure could have been anticipated to some extent in that "sensitivity" analysis might have been helpful in foreshadowing the model's breakdown. It appears that their specification underestimated the interest rate elasticity of money demand in part because of the learning-adjustment mechanism. We also provide results that call into question their use of volatility and the model's over-reliance on movements in volatility.

PD December 1994. TI Reinterpreting Excess Sensitivity with Precautionary Savings. AU Hess, Gregory D.; Wilson, B. Kemp. AA University of Kansas. SR Federal Reserve Bank of Kansas City Research Working Paper: 94-10; Research Division, Federal Reserve Bank of Kansas City, 925 Grand Blvd., Kansas City, MO 64198. PG 28. PR no charge. JE E21, D31. KW Savings. Income. Consumption. Liquidity Constraint.

AB The theory of precautionary saving predicts that consumption ought to respond to news about both the current level of income and its future variability. Furthermore, if an individual's expectation of the variability of future income is influenced by past income innovations, then it is possible for such an influence to significantly affect the revisions in consumption expenditures as well. Given that precautionary savings are an important determinant of consumption plans, it follows that research which ignores this channel are potentially biased in developing explanations to the excess-sensitivity in consumption; for, what might appear, ex post, to be excess-sensitivity, may in fact be, ex ante, consumption responding properly to the uncertainty of future income. The empirical results in this paper find that while precautionary saving motives are important, consumption still exhibits excess-sensitivity. Further, the results suggest that the liquidity constraint hypothesis is an unlikely candidate for the existence of such sensitivity and thus warrants an alternative explanation.

### Hildenbrand, Werner

PD April 1994. TI Reflexions sur le Contenu Empirique des Theories Economiques. AA University of Bonn.

**SR** Universitaet Bonn Sonderforschungsbereich 303 - Discussion Paper: A- 451; Sonderforschungsbereich 303 an der Universitaet Bonn, Adenauerallee 24-42, D-5300 Bonn 1, DEUTSCHLAND. **PG** 25. **PR** no charge. **JE** B41. **KW** Methodology. **AB** not available.

**PD** October 1994. **TI** Aggregate Consumer's Expenditure and Income. **AU** Hildenbrand, Werner; Kneip, Alois. **AA** Hildenbrand: University of Bonn. **Kneip:** CORE, Belgium. **SR** Universitaet Bonn Sonderforschungsbereich 303 - Discussion Paper: A- 456; Sonderforschungsbereich 303 an der Universitaet Bonn, Adenauerallee 24-42, D-5300 Bonn 1, DEUTSCHLAND. **PG** 37. **PR** no charge. **JE** B41, C14, D12, E21. **KW** Aggregation. Consumption Function. Structural Stability. Prediction.

**AB** This paper analyzes under what circumstances one can establish a stable (i.e., time invariant) functional relationship which links aggregate consumption in period  $t$  with aggregate income in period  $t$  and other "determinants" of consumption that refer to periods prior to period  $t$  and can be derived from observable distributions of households' characteristics. The basic hypothesis on which our model is built is the hypothesis of a "structurally stable" evolution. The proposed dynamic model of consumer's expenditure implies the observed regularities of aggregate consumption and income data such as the high linear association of aggregate income and consumption for short-run time series. The compatibility of our model with empirical data and its predictive power is discussed using time-series of cross-section data, the U.K. Family Expenditure Survey from 1968 to 84.

### Ho, Mun S.

**PD** September 1994. **TI** Finding Cointegration Rank in High Dimensional Systems Using the Johansen Test: An Illustration Using Data Based Monte Carlo Simulations. **AU** Ho, Mun S.; Sorensen, Bent E. **AA** Ho: Harvard University. Sorensen: Brown University. **SR** Brown University Department of Economics Working Paper: 94-24; Department of Economics, Brown University, Providence, RI 02912. **PG** 10. **PR** no charge. **JE** C15, C32. **KW** Cointegration. Monte Carlo Simulation. Maximum Likelihood. Sample Bias. Simultaneous Equations. VAR.

**AB** We examine the ability of the Johansen (1991) test to estimate the number of unit roots in high dimensional systems. Since the small sample critical values are dependent on the specific Data Generating Process (DGP) we suggest the use of data based Monte Carlo methods as a simple means of evaluating the validity of inference using asymptotic critical values. The first data set we use is the annual post World War II time series for value added in SIC 1 level sectors, which constitute up to 10 series. These simulations illustrate clearly that the estimated number of unit roots tend to move in a non-linear fashion with the dimension of the system and the number of lags in the VAR representation. We also consider a system of 7 time series of daily exchange rates which we estimate not to have any cointegrating vectors. Here we keep the DGP constant except that we vary the number of observations in the simulated process. We find that the empirical 95% fractiles converge slowly to the asymptotic value and that the empirical 95% percentile is quite far from the asymptotic 95% percentile, even for a series of length, say, 150.

### Hoang, Chinh

**PD** May 1994. **TI** On the P4-Structure of Perfect Graphs v. Overlap Graphs. **AU** Hoang, Chinh; Hougardy, Stefan. Maffray, Frederic. **AA** Hoang: Lakehead University. Hougardy: University of Bonn. Maffray: CEDEX. **SR** Universitaet Bonn Sonderforschungsbereich 303 - Discussion Paper: 94822; Sonderforschungsbereich 303 an der Universitaet Bonn, Adenauerallee 24-42, D-5300 Bonn 1, DEUTSCHLAND. **PG** 25. **PR** no charge. **JE** C44. **KW** Graph Theory. Overlap Graphs. Perfect Graphs. Bipartition.

**AB** Given a graph  $G$  we define its  $k$ -overlap graph as the graph whose vertices are induced  $P_4$ s of  $G$  and two vertices in the overlap graph are adjacent if the corresponding  $P_4$ s in  $G$  have exactly  $k$  vertices in common. For  $k = 1, 2, 3$  we prove that if the  $k$ -overlap graph of  $G$  is bipartite then  $G$  is perfect.

### Holtz Wooders, Myrna

**TI** On the Evolution of the Distribution of Income. **AU** Robson, Arthur; Holtz Wooders, Myrna.

### Hopper, Gregory P.

**PD** November 1994. **TI** Time-Varying Consumption Betas and the Foreign Exchange Market. **AA** Federal Reserve Bank of Philadelphia. **SR** Federal Reserve Bank of Philadelphia Research Working Paper: 94-24; Working Papers, Department of Research, Federal Reserve Bank of Philadelphia, 10 Independence Mall, Philadelphia, PA 19106. **PG** 11. **PR** no charge except overseas airmail, \$3.00; checks/money orders in U.S. funds payable to Federal Reserve Bank of Philadelphia. **JE** G12, E43, C32, C51. **KW** CAPM. GARCH. Generalized Method of Moments. Risk Premia.

**AB** The failure of uncovered interest parity is studied in real terms in the context of a time-varying conditional consumption CAPM. The model allows for time-varying consumption betas and incorporates conditioning information by writing the conditional moments as Bollerslev's (1986) GARCH processes. The model is estimated for four currencies simultaneously using a generalized method of moments procedure. To avoid having to specify the market portfolio, the model is written in such a way that the market return is eliminated. With this specification, the over-identifying restrictions implied can be strongly rejected. Thus, the model provides little support for the existence of time-varying risk premia.

### Hordijk, Leen

**TI** Interactions Between Operational Research and Environmental Management. **AU** Bloemhof-Ruwaard, Jacqueline M.; van Beek, Paul; Hordijk, Leen; Van Wassenhove, Luk N.

### Hougardy, Stefan. Maffray, Frederic

**TI** On the P4-Structure of Perfect Graphs v. Overlap Graphs. **AU** Hoang, Chinh; Hougardy, Stefan. Maffray, Frederic.

### Hoy, Michael

**TI** Making Inequality Comparisons When Lorenz Curves Intersect. **AU** Davies, James; Hoy, Michael.

### Huang, Dong-Pei

**TI** How Does Industrialization Affect the Structure of



International Trade? The Japanese Experience in the Pacific Basin, 1975-85. AU Shirai, Sayuri; Huang, Dong-Pei.

### Hung, Nguyen Manh

TI International Trade and Environmental Policy: Production vs. Consumption Taxes. AU Cadot, Olivier; Hung, Nguyen Manh; Richell, Yves.

### Jackson, Matthew O.

PD August 1994. TI A Strategic Model of Social and Economic Networks. AU Jackson, Matthew O.; Wolinsky, Asher. AA Northwestern University. SR Northwestern University Center for Mathematical Studies in Economics and Management Science Discussion Paper: 1098; Northwestern University, 2001 Sheridan Road, 3-014 Leverone Hall, Evanston, IL 60208-2014. PG 22. PR \$3.00 in U.S. and Canada; \$5.00 via international mail; \$2.00 for local Northwestern faculty/students. JE C72. KW Social Networks. Allocation Rules.

AB We study the stability and efficiency of social and economic networks, when self-interested individuals have the discretion to form or sever links. First, in the context of two stylized models, we characterize the sets of stable networks (immune to incentives to form or sever links) and the sets of efficient networks (those which maximize total production or utility). The sets of stable networks and efficient networks do not always intersect. Next, we show that this tension is not unique to these models, but persists generally. In order to assure that there is always at least one efficient graph which is stable, one is forced to allocate resources to nodes (players) who are not responsible for any of the production. We characterize one such allocation rule: the equal split rule. We characterize another rule which fails to assure that efficient graphs are stable, but arises naturally if the allocations result from the bargaining of the players.

PD September 1994. TI Approximate Competitive Equilibria in Large Economies. AU Jackson, Matthew O.; Manelli, Alejandro M. AA Northwestern University. SR Northwestern University Center for Mathematical Studies in Economics and Management Science Discussion Paper: 1101; Northwestern University, 2001 Sheridan Road, 3-014 Leverone Hall, Evanston, IL 60208-2014. PG 26. PR \$3.00 in U.S. and Canada; \$5.00 via international mail; \$2.00 for local Northwestern faculty/students. JE D11, D50, D61. KW Competitive Equilibria. Demand Functions. Allocational Efficiency.

AB We examine market-clearing prices and allocations in economies where agents' demand functions are undominated relative to their beliefs about other agents' actions. For sufficiently large economies and give certain restrictions on beliefs, the resulting allocations are nearly competitive.

TI Bid-Ask Spreads With Indirect Competition Among Specialists. AU Gehrig, Thomas; Jackson, Matthew O.

### Jacobson, Sheldon H.

TI Intractable Structural Issues in Discrete Event Simulation: Special Cases and Heuristic Approaches. AU Yuecesan, Enver; Jacobson, Sheldon H.

### Jaffe, Adam B.

PD June 1994. TI Environmental Regulation and Technology Diffusion: The Effects of Alternative Policy

Instruments. AU Jaffe, Adam B.; Stavins, Robert N. AA Jaffe: Harvard University. Stavins: Resources for the Future and Harvard University. SR Harvard John F. Kennedy School of Government Faculty Research Working Paper Series: R94-20; John F. Kennedy School of Government, Harvard University, 79 John F. Kennedy Street, Cambridge, MA 02138. PG 25. PR no charge. JE O33, O38, Q28. KW Environmental Policy. Technology.

AB This paper presents a framework for comparing empirically the effects of alternative environmental policy instruments on the diffusion of new technology. We suggest that "market-based" and "command-and-control" approaches can be quantitatively compared by estimating the economic penalty that firms, through their actions, reveal to be associated with violation of command-and-control standards. In the context of concerns about global climate change, we apply this approach to an empirical examination of the likely effects of Pigouvian taxes, technology adoption subsidies, and technology standards. In particular, we employ state-level data on the diffusion of thermal insulation in new home construction between 1979 and 1988, comparing the effects of energy prices, insulation cost, and state-level building codes.

### Jagannathan, Ravi

TI Assessing Specification Errors in Stochastic Discount Factor Models. AU Hansen, Lars Peter; Jagannathan, Ravi.

TI Ex-Dividend Price Behavior of Common Stocks. AU Boyd, John; Jagannathan, Ravi.

### Jehiel, Philippe

PD February 1994. TI Cyclical Delay in Infinite Horizon Bargaining With Externalities. AU Jehiel, Philippe; Moldovanu, Benny. AA Jehiel: CERAS, Paris. Moldovanu: University of Bonn. SR Universitaet Bonn Sonderforschungsbereich 303 - Discussion Paper: B- 286; Sonderforschungsbereich 303 an der Universitaet Bonn, Adenauerallee 24-42, D-5300 Bonn 1, DEUTSCHLAND. PG 32. PR no charge. JE C78, D80. KW Bargaining. Externalities. Information Structure. Finite. Infinite Horizon.

AB Externalities are shown to induce delays in negotiation games with complete and perfect information where a seller randomly meets one of the potential buyers at each stage of the game. Delays arise both in the finite and the infinite horizon game. In the finite horizon game, we identify delays both for positive and negative externalities. In the infinite horizon game, we shown that with positive externalities, there exists no SPNE in pure strategies with bounded memory that exhibits delay. However, with negative externalities, we provide a simple example such that all SPNE with bounded memory have the property that long periods of waiting alternate with short periods of activity: This is the cyclical delay phenomenon.

PD March 1994. TI Strategic Non-Participation. AU Jehiel, Philippe; Moldovanu, Benny. AA Jehiel: CERAS, Paris. Moldovanu: University of Bonn. SR Universitaet Bonn Sonderforschungsbereich 303 - Discussion Paper: B- 287; Sonderforschungsbereich 303 an der Universitaet Bonn, Adenauerallee 24-42, D-5300 Bonn 1, DEUTSCHLAND. PG 25. PR no charge. JE D43. KW Negative Externalities. Oligopolistic Markets. Non-Participation. Willingness to Pay. Instability.

AB We study a model that involves identity-dependent,

asymmetric negative external effects. Willingness to pay, which can be computed only in equilibrium, will reflect, besides private valuations, also preemptive incentives stemming from the desire to minimize the negative externalities. We find that the best strategy of some agents is simply not to participate in the market, although they cannot in this way avoid the negative external effects. An illustration is made for the acquisition of patents in oligopolistic markets. Finally, we show that, even when we allow full communication and side-payments between agents, all coalitional agreements are unstable.

**PD** June 1994. **TI** How (Not) to Sell Nuclear Weapons. **AU** Jehiel, Philippe; Moldovanu, Benny; Stacchetti, Ennio. **AA** Jehiel: CERAS, Paris. Moldovanu: University of Bonn. Stacchetti: University of Michigan. **SR** Universitaet Bonn Sonderforschungsbereich 303 - Discussion Paper: B- 288; Sonderforschungsbereich 303 an der Universitaet Bonn, Adenauerallee 24-42, D-5300 Bonn 1, DEUTSCHLAND. **PG** 14. **PR** no charge. **JE** D44, C72. **KW** Nash Equilibrium. Auction. Dominant Strategies. Revenue Maximizing.

**AB** We study the problem of a seller who wants to maximize her revenue in situations where the outcome of the sale affects the nature of the future interaction between agents. We model those situations by assuming that an agent that does not acquire the object for sale incurs an externality that may depend both on the identity of the sufferer and on the identity of the final purchaser. We describe an optimal auction that has a unique Nash equilibrium in strictly dominant strategies. We show that: 1) Outside options are endogenously determined in equilibrium. Participation constraints and the "threats" in case of non-participation play an important role. 2) An optimizing seller can extract surplus also from buyers that do not obtain the auctioned object. 3) The seller is better off by not selling at all (while obtaining some payments) if externalities are large when compared to the pure profits that buyers achieve if they acquire the object. 4) The revenue-maximizing equilibrium is coalition-proof if buyers cannot organize side payments among themselves.

### Johnston, R. Barry

**PD** July 1994. **TI** The Impact of Controls on Capital Movements on the Private Capital Accounts of Countries' Balance of Payments: Empirical Estimates and Policy Implications. **AU** Johnston, R. Barry; Ryan, Chris. **AA** International Monetary Fund. **SR** International Monetary Fund Working Paper: WP/94/78; International Monetary Fund, 700 19th Street, Washington, DC 20431. **PG** 23. **PR** not available. **JE** F21, F31, F33, O16. **KW** Foreign Exchange. International Investment. Development. Capital Movements.

**AB** This paper reports research on the impact of controls on capital movements on the private capital accounts of countries' balance of payments using data drawn from 52 countries for the period 1985-92. The results indicate that: (1) capital controls operated by developing countries have not been effective in insulating the private capital accounts of these countries' balance of payments, and (2) capital controls operated by industrial countries significantly affected the structure of their capital flows mainly by inhibiting net foreign direct and portfolio investment outflows. The results, which are consistent with other observations, raise issues for the policy toward the maintenance and liberalization of controls on capital movements by developing countries.

### Jones, Christopher S.

**TI** The Predictive Failure of the Baba, Hendry and Starr Model of the Demand for M1 in the United States. **AU** Hess, Gregory D.; Jones, Christopher S.; Porter, Richard D.

**TI** The Predictive Failure of the Baba, Hendry and Starr Model of the Demand for M1 in the United States. **AU** Hess, Gregory D.; Jones, Christopher S.; Porter, Richard D.

### Juan-Ramon, V. Hugo

**TI** On Corruption and Capital Accumulation. **AU** Asilis, Carlos M.; Juan-Ramon, V. Hugo.

### Kalt, Joseph P.

**PD** September 1994. **TI** Precedent and Legal Argument in U.S. Trade Policy: Do They Matter to the Political Economy of the Lumber Dispute? **AA** Harvard University. **SR** Harvard John F. Kennedy School of Government Faculty Research Working Paper Series: R94-23; John F. Kennedy School of Government, Harvard University, 79 John F. Kennedy Street, Cambridge, MA 02138. **PG** 41. **PR** no charge. **JE** F13, F14, L73. **KW** Trade Policy. Lumber Industry. Canada.

**AB** For more than a decade, the United States and Canada have been engaged in a rancorous dispute over trade in softwood lumber. Through three successive rounds of administrative litigation before the U.S. Department of Commerce, the U.S. sawmill industry has sought to have countervailing duties imposed upon Canadian lumber imports. The U.S. interests argue that Canada subsidizes its sawmills by providing timber from public forests at below-market prices, and by restricting exports of Canadian logs. The trade war over lumber is waged primarily in the hearings rooms of the Department of Commerce. The rules of war are set down in the legal criteria and precedents of U.S. countervailing duty (CVD) law, and both the U.S. and Canadian interests have invested heavily in legal armaments. This study examines whether, and to what extent, the institutional framework--the legal rules, standards and precedents--of CVD law influences the success or failure of the contending parties. Two alternative theories of political economy are tested. Capture Theory de-emphasizes the role of institutional settings of the kind at work here: The outcomes of political action are determined by the stakes and organization of rent-seeking parties, and the quasi-judicial regulatory proceedings of the Department of Commerce are mere Stiglerian theater. The New Institutionalism, on the other hand, posits that the structure and form of such proceedings are conditioning constraints, with the capacity to significantly influence the outcome of rent-seeking battles. Applying pseudo-regression Boolean techniques to a set of the actual legal issues argued before the Department of Commerce, this study finds more support for Capture Theory than for the New Institutionalism. An issue with large stakes is never lost by the politically-favored party, even when legal precedent and the burden of argument is against that party's interest.

### Kamecke, Ulrich

**PD** June 1994. **TI** Dominance Solvable English Multi-Item Auctions. **AA** University of Bonn. **SR** Universitaet Bonn Sonderforschungsbereich 303 - Discussion Paper: A- 447; Sonderforschungsbereich 303 an der Universitaet Bonn, Adenauerallee 24-42, D-5300 Bonn 1, DEUTSCHLAND. **PG** 18. **PR** no charge. **JE** C78, D44. **KW** English

**Auctions. Matching Markets. Iterated Elimination of Dominated Strategies.**

**AB** This paper discusses conditions under which an English multi-object can be solved by an iterated elimination of dominated strategies. It is well-known that in such a matching auction the construction with the Gale-Shapley algorithm coincides with the Walrasian mechanism, but it is open under what conditions rational buyers should implement this mechanism. I present two English auction games in which an iterated elimination of dominated strategies always leads to the expected outcome. The games are formulated such that the usual problems of an elimination procedure are not present.

**PD** June 1994. **TI** Competitive Bidding in an English Multi-Object Auction: An Experimental Study. **AA** University of Bonn. **SR** Universitaet Bonn Sonderforschungsbereich 303 - Discussion Paper: A- 448; Sonderforschungsbereich 303 an der Universitaet Bonn, Adenauerallee 24-42, D-5300 Bonn 1, DEUTSCHLAND. **PG** 35. **PR** no charge. **JE** C78, C92, D44. **KW** English Auctions. Matching Markets. Experimental Economics.

**AB** In the experiment several objects were auctioned simultaneously. The buyers should always submit the myopically best bid and with these Walrasian strategies the auction would construct the buyer-optimal competitive allocation. The experimental outcomes were very efficient but not as close to the competitive equilibrium as this efficiency measure suggests. The bidding strategies were close to the game theoretic prediction and they were getting better as the experimental sessions proceeded. Nevertheless, some participants persistently deviated from the predicted play, but since their deviations were costly, the evidence supports the claim that most agents should sooner or later adopt the recommended strategies.

#### **Kamin, Steven B.**

**TI** Determinants of the 1991-93 Japanese Recession: Evidence From a Structural Model of the Japanese Economy. **AU** Brunner, Allan D.; Kamin, Steven B.

#### **Kaminsky, Graciela L.**

**PD** September 1994. **TI** The Debt Crisis: Lessons of the 1980's for the 1990's. **AU** Kaminsky, Graciela L.; Pereira, Alfredo. **AA** Kaminsky: Board of Governors of the Federal Reserve System, Pereira: University of California, San Diego. **SR** Board of Governors of the Federal Reserve System International Finance Discussion Paper: 481; Board of Governors of the Federal Reserve System, Division of International Finance, Washington, DC 20551. **PG** 19. **PR** no charge. **JE** F34, O54. **KW** Foreign Debt Crisis. Capital Flows. Political Economy. Inequality.

**AB** One of the salient characteristics of the 1980's is the growth collapse of the Latin American debtor countries. The debt-overhang literature claims that the debt crisis is the main reason for the growth collapse. However, previous empirical work has failed to support this hypothesis. We reexamine this hypothesis further using simulation and econometric methods. We find that once we account for the effects of social inequality on government policy and consumption, the burden of servicing the debt becomes an important factor in explaining the collapse in investment and output growth in Latin America. We draw some conclusions for the 1990's.

**PD** September 1994. **TI** The Real Exchange Rate and Fiscal Policy During the Gold Standard Period: Evidence From the United States and Great Britain. **AU** Kaminsky, Graciela L.; Klein, Michael. **AA** Kaminsky: Board of Governors of the Federal Reserve System, Klein: Tufts University. **SR** Board of Governors of the Federal Reserve System International Finance Discussion Paper: 482; Board of Governors of the Federal Reserve System, Division of International Finance, Washington, DC 20551. **PG** 20. **PR** no charge. **JE** F31, F33, F41. **KW** Gold Standard. Exchange Rate. Open Economy. Fiscal Policy.

**AB** We study the determinants of the dollar/pound real exchange rate from 1879 to 1914, focusing on the role of fiscal policy. We present a simple dynamic model of the real exchange rate to frame our analysis. The econometric results are based upon the decomposition of the sources of the innovation of the real exchange rate drawn from a structural vector autoregression model. We find little evidence that changes in tariffs and government spending affected the real exchange rate. There is some stronger empirical evidence that shocks to deficits were associated with the fluctuations in the real exchange rate.

#### **Keane, Michael**

**TI** Alternative Computational Approaches to Inference in the Multinomial Probit Model. **AU** Geweke, John; Keane, Michael; Runkle, David.

**TI** Statistical Inference in the Multinomial Multiperiod Probit Model. **AU** Geweke, John; Keane, Michael; Runkle, David.

**PD** September 1994. **TI** The Solution and Estimation of Discrete Choice Dynamic Programming Models by Simulation and Interpolation: Monte Carlo Evidence. **AU** Keane, Michael; Wolpin, Kenneth. **AA** Keane: Federal Reserve Bank of Minneapolis and University of Minnesota. Wolpin: New York University. **SR** Federal Reserve Bank of Minneapolis Staff Report: 181; Research Department, Federal Reserve Bank of Minneapolis, 250 Marquette Ave., Minneapolis, MN 55401. **PG** 37. **PR** no charge. **JE** C13, C15, C35, C61, C63. **KW** Simulation. Dynamic Programming. Discrete Choice. Structural Modeling.

**AB** Over the past decade, a substantial literature on the estimation of discrete choice dynamic programming (DC-DP) models of behavior has developed. However, this literature now faces major computational barriers. Specifically, in order to solve the dynamic programming (DP) problems that generate agents' decision rules in DC-DP models, high dimensional integrations must be performed at each point in the state space of the DP problem. In this paper we explore the performance of approximate solutions to DP problems. Our approximation method consists of: 1) using Monte Carlo integration to simulate the required multiple integrals at a subset of the state points, and 2) interpolating the non-simulated values using a regression function. The overall performance of this approximation method appears to be excellent, both in terms of the degree to which it mimics the exact solution, and in terms of the parameter estimates it generates when embedded in an estimation algorithm.

#### **Keeler, Theodore E.**

**PD** August 1994. **TI** Hospital Costs and Excess Bed Capacity: A Statistical Analysis. **AU** Keeler, Theodore E.;

Ying, John S. AA Keeler: University of California, Berkeley. Ying: University of Delaware. SR University of Delaware Department of Economics Working Paper: 94-7; College of Business and Economics, Department of Economics, University of Delaware, Newark, Delaware 19716-2720. PG 25. PR not available. JE I11, C21, C51. KW Health Care. Hospitals. Bed Capacity.

AB This paper develops and estimates a cost model for U.S. hospitals, analyzing the cost of excess bed capacity. A new estimate is worth making for at least two reasons. Recent changes in the economic environment of hospitals have caused their utilization rates to fall sharply, making previous estimates inaccurate. Second, we employ econometric techniques not previously applied to this problem, with estimation based on all short-term community hospitals from 1979-1989. Our results, based on conservative estimates of the average optimal occupancy rate, indicate an annual cost of excess bed capacity of \$17.2 billion in 1989, \$24.1 billion in 1991, and over \$25 billion in 1993.

#### Kehoe, Patrick

TI The Role of Institutions in Reputation Models of Sovereign Debt. AU Cole, Harold; Kehoe, Patrick.

#### Kim, Minseong

TI Predation and Production. AU Grossman, Herschel I.; Kim, Minseong.

#### Kitamura, Y.

PD September 1994. TI Fully Modified IV, GIVE and GMM Estimation With Possibly Non-Stationary Regressors and Instruments. AU Kitamura, Y.; Phillips, Peter C. B. AA Kitamura: University of Minnesota. Phillips: Yale University. SR Yale Cowles Foundation Discussion Paper: 1082; Yale University, Cowles Foundation for Research in Economics, 30 Hillhouse Ave., Box 2125 Yale Station, New Haven, CT 06520. PG 42. PR no charge. JE C32, C12. KW Cointegration. Fully Modified Least Squares. GMM. Unit Roots.

AB This paper develops a general theory of instrumental variables (IV) estimation that allows for both I(1) and I(0) regressors and instruments. The estimation techniques involve an extension of the fully modified (FM) regression procedure that was introduced in earlier work by Phillips-Hansen (1990). FM versions of the generalized instrumental variable estimation (GIVE) method and the generalized method of moments (GMM) estimator are developed. In models with both stationary and nonstationary components, the FM-GIVE and FM-GMM techniques provide efficiency gains over FM-IV in the estimation of the stationary components of a model that has both stationary and nonstationary regressors. The paper exploits a result of Phillips (1991a) that we can apply FM techniques in models with cointegrated regressors and even in stationary regression models without losing the method's good asymptotic properties. The present paper shows how to take advantage jointly of the good asymptotic properties of the GIVE and GMM estimators with respect to the stationary components. The theory applies even when there is no prior knowledge of the number of unit roots in the system or the dimension or the location of the cointegration space. An FM extension of the Sargan (1958) test for the validity of the instruments is proposed.

#### Kleiman, Mark A. R.

PD March 1994. TI Assessing Needle Exchange and Distribution: The Limits of Benefit-Cost Analysis. AU Kleiman, Mark A. R.; Rudolph, Jenny W. AA Kleiman: Harvard University and The Program of Criminal Justice/Management. Rudolph: BOTEC Analysis Corporation. SR Harvard John F. Kennedy School of Government Faculty Research Working Paper Series: R94-18; John F. Kennedy School of Government, Harvard University, 79 John F. Kennedy Street, Cambridge, MA 02138. PG 14. PR no charge. JE I11, H72. KW Drug Abuse. Health Care. Government Policy.

AB The discussion of needle exchange policy as an approach to reducing the spread of HIV among intravenous drug users (IDU's) can usefully be decomposed into two questions: 1) The appropriate legal status of needle possession and distribution under various circumstances; and 2) the appropriate organization and funding of AIDS prevention and other harm-reduction outreach efforts to IDU's. Good arguments can be made for the repeal of the laws against needle possession and distributing or for exemption from those laws for those conducting or participating in needle exchange programs. Even if the laws themselves are not changed, there is an excellent case for easing law enforcement directed at possession of "works" by individuals for their own use. Good arguments can also be made for expanding harm reduction outreach efforts to IDU's, perhaps with needle exchange as a primary outreach technique. The repeal of the "works" laws would certainly reduce one of the benefits of needle exchange programs, while the existence of such programs would weaken the case for the repeal of the laws. Moreover, there is no good reason to think that publicly-funded, and especially publicly-administered, exchange programs would match the outcomes that have been reported for the private voluntary efforts now underway in some cities. The importance of local variations in program design and implementation and in the surrounding circumstances sharply limits the value of conventional program evaluation at the generic level in making specific choices. Whether "needle exchange" has benefits exceeding its costs is not a question that can be answered in the abstract. The paper provides a checklist of questions about the choice of program designs in light of local circumstances.

PD June 1994. TI The Prince as Drama. AA Harvard University and The Program in Criminal Justice Policy/Management. SR Harvard John F. Kennedy School of Government Faculty Research Working Paper Series: R94-15; John F. Kennedy School of Government, Harvard University, 79 John F. Kennedy Street, Cambridge, MA 02138. PG 22. PR no charge. JE P41, D70. KW Machiavelli. Political Economy. Republicans.

AB The evident contradictions between The Prince and the Discourses, and between the teaching of The Prince and Machiavelli's republican loyalties, pose a famous puzzle. The puzzle can be solved by reading The Prince as a dialogue between a Counselor and a Prince, in which only the Counselor speaks. If The Prince is a drama rather than an essay, its meaning may not lie on its surface. Faced with possible dramatic irony, the reader is forced to engage the text actively to discover the author's intention. A close reading reveals a republican message: The Prince's project of achieving glory via successful tyranny is incoherent, and its effectual truth can be found only in the foundation or renovation of a republic or a law-governed monarchy. Machiavelli's choice of form, which

denies the reader an opportunity to appropriate Machiavelli's ideas passively and uncritically, is dictated by his beliefs that only the wise can be well-advised and that power, to be secure, must be self-reliant.

**TI** Drug Abuse Control Policy From a Crime-Control Perspective. **AU** Boyum, David; Kleiman, Mark A. R.

### **Klein, Michael**

**TI** The Real Exchange Rate and Fiscal Policy During the Gold Standard Period: Evidence From the United States and Great Britain. **AU** Kaminsky, Graciela L.; Klein, Michael.

### **Kletzer, Kenneth**

**TI** Price Normalization and Equilibria in General Equilibrium Models of International Trade Under Imperfect Competition. **AU** Srinivasan, T. N.; Kletzer, Kenneth.

### **Kneip, Alois**

**TI** Aggregate Consumer's Expenditure and Income. **AU** Hildenbrand, Werner; Kneip, Alois.

### **Koen, Vincent**

**PD** June 1994. **TI** Exchange Rate Determinants in Russia: 1992-93. **AU** Koen, Vincent; Meyermans, Eric. **AA** International Monetary Fund. **SR** International Monetary Fund Working Paper: WP/94/66; International Monetary Fund, 700 19th Street, Washington, DC 20431. **PG** 20. **PR** not available. **JE** E31, E41, E52, E58, F31. **KW** Foreign Exchange. Inflation. Money Demand. Central Banks.

**AB** This paper examines the evolution of the exchange rate of the ruble vis-a-vis the U.S. dollar from exchange rate unification, in July 1992, to the end of 1993. The expected and actual paths of the exchange rate are related to the exchange and trade regime and to the stance of financial and exchange rate policies. An econometric analysis based on weekly data is offered, which suggests that monetary factors have a significant impact on the short run behavior of the exchange rate.

### **Koford, Kenneth**

**PD** December 1994. **TI** The Price of Rarity. **AU** Koford, Kenneth; Tschögl, Adrian E. **AA** Koford: University of Delaware. Tschögl: University of Pennsylvania. **SR** University of Delaware Department of Economics Working Paper: 94-18; College of Business and Economics, Department of Economics, University of Delaware, Newark, Delaware 19716-2720. **PG** 27. **PR** not available. **JE** D11, D43, C21. **KW** Rarity. Demand Analysis. Pricing. **AB** Does pure rarity command a price? Standard demand analysis denies that rarity alone, among otherwise identical objects, should influence price. This paper examines the case of coins of a given type and identical quality but that have mintages that exist in different quantities. This allows us to exclude the common case in which rarity (or price itself) is an indicator of quality. For our sample, rarity strongly influences the market price. This suggests that there may be other goods for which rarity may influence prices.

### **Kolstad, Charles D.**

**PD** July 1994. **TI** Fundamental Irreversibilities in Stock Externalities. **AA** University of California, Santa Barbara. **SR** University of California, Santa Barbara Working Papers

in Economics: 8-94; Working Paper Coordinator, Department of Economics, University of California, Santa Barbara, CA 93106. **PG** 18. **PR** no charge. **JE** Q21, Q28, D62. **KW** Stock Externalities. Environmental Irreversibilities. Investment. Sunk Capital.

**AB** This paper concerns the irreversibility effect in stock externalities. In an environment of uncertainty with learning taking place, one may wish to under-emit today to avoid potential environmental irreversibilities. Alternatively, one may wish to under-invest in pollution control capital, avoiding investments in sunk capital that turn out to be wasted. The paper develops theoretical results on the tension between these two effects and separates risk aversion from the irreversibility effect. The paper also presents a simple example of climate change policy.

### **Kop, Yaakov**

**PD** September 1994. **TI** Achy But Healthy: Lessons From the Israeli Health Sector. **AA** Center for Social Policy Studies, Israel and International Monetary Fund. **SR** International Monetary Fund Working Paper: WP/94/112; International Monetary Fund, 700 19th Street, Washington, DC 20431. **PG** 37. **PR** not available. **JE** I11, I18. **KW** Health Care. Public Policy.

**AB** Health policy has been for some time high on the agenda of many countries--and where it has not, it should be. Since no ideal model of health services has ever been devised, one may look for favorable elements in the health sector of a given country and examine their applicability to other countries. This paper analyzes Israel's health sector in this context.

### **Kortum, Samuel**

**TI** International Patenting and Technology Diffusion. **AU** Eaton, Jonathan; Kortum, Samuel.

### **Kramkov, D.**

**PD** May 1994. **TI** Closed Form Representations for the Minimal Hedging Portfolios of American Type Contingent Claims. **AU** Kramkov, D.; Vishnyakov, A. **AA** Kramkov: Steklov Mathematical Institute, Moscow. Vishnyakov: Institute for Control, Moscow. **SR** Universitaet Bonn Sonderforschungsbereich 303 - Discussion Paper: B- 279; Sonderforschungsbereich 303 an der Universitaet Bonn, Adenauerallee 24-42, D-5300 Bonn 1, DEUTSCHLAND. **PG** 44. **PR** no charge. **JE** G13. **KW** Arbitrage. Hedging. Path Dependent Options.

**AB** In the framework of the classical Black and Scholes model of security market we present the explicit formulas of the minimal hedging portfolios for a number of reward processes of the "classical", lookback and Asian type. These results complement the solutions previously received by Mc Kean, Shepp and Shiryaev, Duffie and Harrison, Kramkov and Mordecki.

### **Krantkraemer, Jeffrey**

**TI** Economic Theory and "Sustainability". **AU** Toman, Michael A.; Pezzey, John; Krantkraemer, Jeffrey.

### **Kraus, Marvin**

**TI** When Are Anonymous Congestion Charges Consistent With Marginal Cost Pricing? **AU** Arnott, Richard; Kraus, Marvin.

**Krueger, Alan B.**

TI Split Sample Instrumental Variables. AU Angrist, Joshua D.; Krueger, Alan B.

**Kumar, Manmohan S.**

TI Emerging Equity Markets in Middle Eastern Countries. AU El-Erian, Mohamed A.; Kumar, Manmohan S.

**Kydland, Finn**

PD August 1994. TI The Computational Experiment: An Econometric Tool. AU Kydland, Finn; Prescott, Edward. AA Kydland: University of Texas. Prescott: Federal Reserve Bank of Minneapolis and University of Minnesota. SR Federal Reserve Bank of Minneapolis Staff Report: 178; Research Department, Federal Reserve Bank of Minneapolis, 250 Marquette Ave., Minneapolis, MN 55401. PG 23. PR no charge. JE C63, C68, B41. KW General Equilibrium. Methodology. Econometrics. Quantitative Theory. AB An economic experiment consists of the act of placing people in an environment desired by the experimenter, who then records the time paths of their economic behavior. Performing experiments that use actual people at the level of national economies is obviously not practical, but constructing a model economy and computing the economic behavior of the model's people is computed. In this essay, we specify the steps in designing a computational experiment to address some well posed quantitative question. We emphasize that the computational experiment is an econometric tool used in the task of deriving the quantitative implications of theory.

**Lahiri, Ashok K.**

TI Cash Shortage in the Former Soviet Union. AU Hardy, Daniel C.; Lahiri, Ashok K.

**Laidler, David**

PD April 1994. TI Robertson in the 1920's. AA University of Western Ontario. SR University of Western Ontario Department of Economics Research Report: 9408; Department of Economics, Social Sciences Center, University of Western Ontario, London, Ontario, CANADA N6A 5C2. PG 24. PR \$10.00. JE B13, B15, E32. KW Cycle Theory. Economic History.

AB This paper discusses the work of Dennis Holme Robertson, especially Banking Policy and the Price Level (1926). It is shown that the similarities between Robertson's positive analysis and Austrian theory are important for our understanding of the evolution of macroeconomics in the 1920's and the 1930's.

PD July 1994. TI Some Aspects of Monetarism Circa 1970--A View From 1994. AA University of Western Ontario. SR University of Western Ontario Department of Economics Research Report: 9413; Department of Economics, Social Sciences Center, University of Western Ontario, London, Ontario, CANADA N6A 5C2. PG 22. PR \$10.00. JE B22, E42, E52. KW Monetarism. Economic History.

AB This essay stresses the contrast between certain ideas of Friedman, Brunner, and Meltzer and seeks to correct the tendency of the 1970's to make Monetarism seem more homogeneous than it was and more recent tendencies to neglect those of its ideas which made it theoretically distinct. The essay deals first with monetarist analysis of the demand and supply of

money, showing how Brunner and Meltzer's elaborate treatment of the money supply process as an integral part of a macroeconomic model, which had no formal parallel in Friedman's work, helped produce a framework in terms of which competing views about the importance of money and fiscal influences on aggregate demand could be systematically formulated. Then Brunner and Meltzer's frequent discussions of the nature of money as a social institution are contrasted with Friedman's remarkable reticence on this matter. Attention is drawn to Friedman's (1975) acceptance of an aggregate supply curve interpretation of the expectations augmented Phillips curve. The author suggests that this, Friedman's closest approach to a New-Classical position, was related to his apparent lack of interest in the institutional basis of monetary exchange, and Brunner and Meltzer's systematic adherence to a price setting equation interpretation of the Phillips relation followed naturally from the extensive discussions of monetary exchange that appeared in their work from 1964 onwards.

PD September 1994. TI The Emergence of the Phillips Curve as a Policy Menu. AA University of Western Ontario. SR University of Western Ontario Department of Economics Research Report: 9417; Department of Economics, Social Sciences Center, University of Western Ontario, London, Ontario, CANADA N6A 5C2. PG 29. PR \$10.00. JE B22, E24, E62. KW Phillips Curve. Policy Function.

AB Who was responsible for the emergence of "The Phillips curve as a menu for policy choice", as Albert Rees called it in (1970)? And who attached that particular set of prices--Herberger triangles and the Okun gap--to the items on it? The usual response to such queries is that we should look to Samuelson and Solow (1960), and the work of the Kennedy Administration's Council of Economic Advisors. Robert Leeson (1993) in particular has argued that the influence wielded by the policy trade-off interpretation of the issue in the United States must be understood in the context of the 1960 Kennedy campaign, and the role played by "Keynesian" full employment ideas, both in that campaign's platform, and in the subsequent policies of the Kennedy administration. But, though there certainly was a significant American contribution to the development of the analysis in question, and though economists associated with the Kennedy administration were deeply involved in it, I shall argue below that the idea of the Phillips curve as a policy menu was present, albeit informally, in British discussions in the late 1950s, while there is also an all-important "Canadian connection" in the story which runs through a research study carried out for the Royal Commission on Banking and Finance.

PD November 1994. TI Endogenous Buffer Stock Money. AU Laidler, David; Robson, William. AA Laidler: University of Western Ontario. Robson: C.D. Howe Institute. SR University of Western Ontario Department of Economics Research Report: 9418; Department of Economics, Social Sciences Center, University of Western Ontario, London, Ontario, CANADA N6A 5C2. PG 31. PR \$10.00. JE E41, E31, E52. KW Money Demand. Inflation. Monetary Policy. Money Stock.

AB We develop some implications of what is usually known as the "buffer stock approach" to monetary analysis in the context of a financial system in which the monetary authorities use a short-term interest rate as their policy instrument. We show how this approach, inasmuch as it stresses the importance of credit-market behavior for the creation of money, differs from the more conventional treatment of money as a passively

adjusting endogenous variable under such a policy regime. We also present the results of some preliminary empirical work that are, at least, not inconsistent with the buffer stock interpretation of Canadian data.

#### Lamoreaux, Naomi R.

PD October 1993. TI Business History From the Microeconomic Perspective. AU Lamoreaux, Naomi R.; Raff, Daniel M. G. AA Lamoreaux: Brown University and National Bureau of Economic Research. Raff: Columbia University and National Bureau of Economic Research. SR Columbia PaineWebber Working Paper Series in Money, Economics and Finance: PW-93-09; PaineWebber Series, 6N Uris Hall, Columbia University, New York, NY 10027. PG 28. PR \$5.00 academics and non-profit institutions; \$6.00 corporations (add \$1.00 outside U.S., Canada and Puerto Rico). JE D23, N01. KW Firms. History. Institutions. Organizational Behavior.

AB Recent developments in microeconomics have rendered it a much more useful instrument for understanding the evolution of organization institutions within firms and the forms and outcomes of competition between firms. In recent years, business history has begun being written in a fashion that begins to address--and occasionally to stimulate--the sorts of concerns and inquiries traditional to economists. This convergence is a good thing. Discourse between the two groups would be helpful for each. The paper gives many examples and indicates fruitful areas for further research.

#### Lawrence, Robert Z.

PD July 1994. TI Trade, Multinationals, and Labor. AA Harvard University, National Bureau of Economic Research, and Brookings Institution. SR Harvard John F. Kennedy School of Government Faculty Research Working Paper Series: R94-22; John F. Kennedy School of Government, Harvard University, 79 John F. Kennedy Street, Cambridge, MA 02138. PG 40. PR no charge. JE F13, F14, F23, J31, O33. KW International Trade. Wage Performance. Technology.

AB This paper summarizes and extends previous research on the relationship between low-wage international competition and wage performance in developed countries in the 1980's. The first section argues that poor average U.S. wage performance reflects slow domestic productivity growth rather than international competition. The second section presents evidence which rejects the view that Stolper-Samuelson effects are important in the U.S., Germany, and Japan. In all three countries, neither the wholesale nor the import prices of unskilled-labor intensive products have experienced relative declines. At the same time, despite the rise in relative skilled worker wages, in the U.S. over the 1980's, the ratio of non-production to production workers grew faster than in the 1960's and 1970's. This suggests that technological change in U.S. manufacturing was particularly biased in favor of white collar workers. The third section explores the employment and wage behavior in U.S. multinational parents and their foreign-owned manufacturing affiliates between 1977 and 1989. Overall the data point to the dominant impact of a commonly shared technological change rather than the impact of trade and increased international sourcing. Developments at home and abroad were remarkably similar. Employment fell, both in U.S. parents and in affiliates in developed countries and grew only modestly in developing countries. In foreign affiliates in both

developed and developing countries, the relative compensation of non-production workers increased and the ratio of production to non-production workers fell. While U.S. parent sourcing from overseas affiliates grew rapidly, the increase accounted for only a small share of total sales. The final section discusses the issue of international labor standards.

#### Leahy, John V.

PD December 1994. TI The Effect of Uncertainty on Investment: Some Stylized Facts. AU Leahy, John V.; Whited, Toni M. AA Leahy: Harvard University, Whited: University of Delaware. SR University of Delaware Department of Economics Working Paper: 94-17; College of Business and Economics, Department of Economics, University of Delaware, Newark, Delaware 19716-2720. PG 15. PR not available. JE E22, D81. KW CAPM. Investment. Uncertainty. Risk.

AB The theoretical relationship between investment and uncertainty is ambiguous. This paper briefly surveys the insights that theory has to offer and then runs a series of simple tests aimed at evaluating the empirical significance of various theoretical effects. Our results from a panel of U.S. manufacturing firms indicate a negative effect of uncertainty on investment consistent with theories of irreversible investment. We find no evidence for a positive effect via the channel of the convexity of the marginal product of capital, and we find weak evidence for the presence of a CAPM-based effect of risk.

#### Leahy, Kim T.

TI Stages of Small Business Growth Revisited: Insights Into Growth Path and Leadership/Management Skills in Low- and High-Growth Companies. AU Eggers, John H.; Leahy, Kim T.; Churchill, Neil C.

#### Leahy, Michael P.

PD October 1994. TI Bank Positions and Forecasts of Exchange Rate Movements. AA Board of Governors of the Federal Reserve System. SR Board of Governors of the Federal Reserve System International Finance Discussion Paper: 486; Board of Governors of the Federal Reserve System, Division of International Finance, Washington, DC 20551. PG 12. PR no charge. JE D82, D84, F31, G14, G21. KW Bank Profits. Foreign Exchange. Risk Premium. Forecasts.

AB Using data on the foreign exchange positions of five leading financial institutions, this paper attempts to determine whether the recent profitability of banks' foreign exchange trading is due to superior abilities to forecast exchange rate movements. Overall, the position data provide evidence that the performances of some financial institutions are: 1) better than one might expect if their forecasts were purely random, and 2) consistent with the possibility that they may possess information that would be valuable in forecasting changes in exchange rates. The conclusions are limited, however, by the possibility that there exists a time-varying risk premium which is correlated with the positions.

#### Lee, Jong-Wha

TI How Does Foreign Direct Investment Affect Economic Growth? AU Borensztein, Eduardo; De Gregorio, Jose; Lee, Jong-Wha.

**Lehrer, Ehud**

PD June 1994. TI Epsilon-Consistent Equilibrium. AU Lehrer, Ehud; Sorin, Sylvain. AA Lehrer: Northwestern University and Tel Aviv University. Sorin: Universite Paris X. SR Northwestern University Center for Mathematical Studies in Economics and Management Science Discussion Paper: 1109; Northwestern University, 2001 Sheridan Road, 3-014 Leverone Hall, Evanston, IL 60208-2014. PG 9. PR \$3.00 in U.S. and Canada; \$5.00 via international mail; \$2.00 for local Northwestern faculty/students. JE C72, C73. KW Epsilon-Consistent Equilibrium. Stochastic Games. Existence Conditions.

AB We deal with the concept of Epsilon-consistent equilibrium which corresponds to strategies inducing an Epsilon-equilibrium in any subgame reached along the play path. Examples and existence conditions are given.

PD September 1994. TI One-Shot Public Mediated Talk. AU Lehrer, Ehud; Sorin, Sylvain. AA Lehrer: Northwestern University and Tel Aviv University. Sorin: Universite Paris X. SR Northwestern University Center for Mathematical Studies in Economics and Management Science Discussion Paper: 1108; Northwestern University, 2001 Sheridan Road, 3-014 Leverone Hall, Evanston, IL 60208-2014. PG 14. PR \$3.00 in U.S. and Canada; \$5.00 via international mail; \$2.00 for local Northwestern faculty/students. JE C72, D82. KW Correlated Equilibrium. Mediated Talk.

AB We show that any correlation device with rational coefficients can be generated by a mechanism where each player sends a private message to a mediator who in turn makes a public deterministic announcement. Moreover, the mechanism suggested is immunized against individual deviations.

**Levy, Philip I.**

PD June 1994. TI A Political-Economic Analysis of Free Trade Agreements. AA Yale University. SR Yale Economic Growth Center Discussion Paper: 718; Economic Growth Center, Yale University, Box 208269, Yale Station, New Haven CT 06520. PG 36. PR \$2.00 + postage. JE F11, F13, F15. KW Regional Integration. Political Economy. Trade Theory.

AB This paper demonstrates that bilateral free trade agreements can undermine political support for further multilateral trade liberalization. If a bilateral trade agreement offers disproportionately large gains to key agents in a country, then their reservation utility is raised above the multilateral free trade level and a multilateral agreement would be blocked. Bilateral agreements between countries with similar factor endowments are most likely to have this effect. It also follows that bilateral free trade agreements can never increase political support for multilateral free trade.

**Lewbel, Arthur**

TI Quadratic Engel Curves, Indirect Tax Reform and Welfare Measurement. AU Banks, James; Blundell, Richard; Lewbel, Arthur.

**Lin, Yun**

TI Chaotic Price Dynamics and Increasing Returns. AU Chichilnisky, Graciela; Heal, Geoffrey; Lin, Yun.

**Linton, Oliver B.**

PD August 1994. TI Local Nonlinear Least Squares Estimation: Using Parametric Information Non-Parametrically. AU Linton, Oliver B.; Gozalo, Pedro L. AA Linton: Yale University. Gozalo: Brown University. SR Yale Cowles Foundation Discussion Paper: 1075; Yale University, Cowles Foundation for Research in Economics, 30 Hillhouse Ave., Box 2125 Yale Station, New Haven, CT 06520. PG 46. PR no charge. JE C40, C51, C52. KW Kernel. Nonparametric Regression. Parametric Regression. Binary Choice.

AB We introduce a new kernel smoother for nonparametric regression that uses prior information on regression shape in the form of a parametric model. In effect, we nonparametrically encompass the parametric model. We derive pointwise and uniform consistency and the asymptotic distribution of our procedure. It has superior performance to the usual kernel estimators at or near the parametric model. It is particularly well motivated for binary data using the probit or logit parametric model as a base. We include an application to the Horowitz (1993) transport choice data set.

**Lizzeri, Alessandro**

PD May 1994. TI Information Revelation and Certification Intermediaries. AA Northwestern University. SR Northwestern University Center for Mathematical Studies in Economics and Management Science Discussion Paper: 1094; Northwestern University, 2001 Sheridan Road, 3-014 Leverone Hall, Evanston, IL 60208-2014. PG 30. PR \$3.00 in U.S. and Canada; \$5.00 via international mail; \$2.00 for local Northwestern faculty/students. JE D82, D83, D42, D43. KW Asymmetric Information. Certification Intermediaries.

AB In this paper I discuss some of the issues that arise when we consider the possibility of certification intermediaries intervening in the market attracted by the profit opportunities created by the existing informational asymmetries between agents. After briefly restating and adapting some results from the disclosure literature in section 1, the next three sections are concerned with an analysis of the case in which the seller pays the intermediary to be certified and the latter chooses how much to reveal to buyers. In section 4 a different assumption on the nature of the good is made and the maximum profit equilibrium for the monopolist is characterized. Partial revelation occurs in this equilibrium and the allocational problem is "solved". In section 5 I discuss the effects of considering alternative market organizations.

**Loveless, Tom**

PD June 1994. TI The Influence of Subject Areas on Middle School Tracking Policies. AA Harvard University. SR Harvard John F. Kennedy School of Government Faculty Research Working Paper Series: R94-19; John F. Kennedy School of Government, Harvard University, 79 John F. Kennedy Street, Cambridge, MA 02138. PG 48. PR no charge. JE I21, I28. KW Education. Tracking Policy.

AB Grouping students by ability into courses with distinct curricula, or "tracking" as it called in middle schools and high schools, has provoked a furious debate among educational scholars and practitioners. Research on tracking invariably characterizes the practice as a school-level, unitary phenomenon; schools are depicted as either tracked or untracked. One consequence of such thinking has been to narrow educators' policy options to either acceptance or



rejection of tracking. By examining the policies of 373 middle schools, this study challenges the characterization of school curricular policy as a unitary construct and presents evidence that tracking, as practiced in schools, evolves from its interaction with subject matter. The movement to reduce ability grouping, for instance, has achieved greater success in English courses than in mathematics. When viewed as a product of subject area subsystems, tracking's place in school organization comes into sharper focus.

#### Lu, Zi-Min

PD January 1995. TI A New Algorithm for American Option Pricing: Fourier Transform Method. AA Princeton University. SR Princeton Financial Research Center Memorandum: 150; Financial Research Center, Department of Economics, Princeton University, Princeton, NJ 08544-1021. PG 8. PR \$3.00 for U.S. mailings; \$6.00 for foreign mailings. JE C61, C63, G12, G13. KW Black-Scholes Equation. American Option. Fourier Transform. Finite Difference Method.

AB In this paper we propose a new algorithm for American option pricing. Solution of the Black-Scholes partial differential equation in a logarithmically transformed stock price variable is extremely simple in the frequency space because in this representation the differential operators, with respect to the stock price, become complex numbers. After multiplying the complex number of the so-called propagator to the option value in the frequency space at a later time and Fourier-transforming it back to the stock price space we obtain the option value at an earlier time. The American option price can be obtained by propagating the final condition in reverse time subject to the early exercise opportunities. This algorithm is intrinsically more accurate and more efficient than the finite difference methods since the differential operators are treated as exact without any approximations. Numerical implementation of this algorithm and comparison with finite difference methods are given.

#### Lumpkin, Stephen A.

PD September 1994. TI Thrift Stock Returns and Balance Sheet Interest Rate Risk Sensitivity. AU Lumpkin, Stephen A.; O'Brien, James M. AA Board of Governors of the Federal Reserve System. SR Board of Governors of the Federal Reserve System Finance and Economics Discussion Series: 94-29; Board of Governors of the Federal Reserve System, C/O Sharon Kozicki, Mail Stop 61, Federal Reserve Board, Washington, DC 20551. PG 26. PR no charge. JE G18, G21. KW Thrift Stock Returns. Interest Rate Risk. Market Value Accounting.

AB The measurement of interest rate risk (IRR) has become an important issue for financial institutions and their ability to explain monthly stock returns of a sample of thrift institutions over the period 1984-1992. The measures differ in their sophistication and use of balance sheet information. The principal measure is based on marking-to-market the thrift institution balance sheets for monthly interest rate changes over the period of study. Analytic background is provided for both the measurement of IRR and its relation to the institution's equity returns. Among three indicators of risk (market, interest rate, and industry-specific), the interest rate measures generally are the weakest in explaining thrift stock returns. Depending on the test, however, a simple long-term bond return is found to have significant explanatory power. None of the balance sheet

measures of IRR are able to dominate or even add to the bond return's explanatory power. Nor is there any indication that the explanatory power of the balance sheet IRR measure increases with the sophistication of the measure. The lack of explanatory power of the balance sheet IRR measures holds for both time series and cross-section tests. These results are interpreted and possible weaknesses in the power of the tests are considered.

#### Machin, Stephen

PD July 1993. TI Are Workers Paid Their Marginal Product? Evidence From a Low Wage Labor Market. AU Machin, Stephen; Manning, Alan; Woodland, Stephen. AA Machin: University College London and London School of Economics. Manning and Woodland: London School of Economics. SR University College London Discussion Paper: 93-09; Department of Economics, University College London, Gower Street, London WC1E 6BT, ENGLAND. PG 40. PR 3.00 pounds; checks payable to Department of Economics, University College London. JE J42, J31, D21. KW Monopsony. Labor Market. Wages.

AB Because of labor market frictions, the supply of labor to a firm does not fall instantaneously to zero if an employer cuts wages. This gives employers some monopsony power. In the absence of trade unions, minimum wages, and efficiency wage considerations, a profit-maximizing employer will set a wage below the marginal revenue product of labor so that workers are, to use the terminology of Hicks and Pigou, exploited. This paper presents a method for computing the rate of exploitation. This method is then applied to a unique data set on workers in residential homes for the elderly on England's "sunshine" coast. We conclude that, on average, firms pay workers about 15% less than their marginal product.

PD August 1993. TI Capital Structure Choice and Unionization: An Empirical Investigation Using UK Micro Data. AU Machin, Stephen; Scaramozzino, Pasquale. AA Machin: University College London and London School of Economics. Scaramozzino: University College London. SR University College London Discussion Paper: 93-10; Department of Economics, University College London, Gower Street, London WC1E 6BT, ENGLAND. PG 27. PR 3.00 pounds; checks payable to Department of Economics, University College London. JE G31, G32, C33, J51. KW Corporate Structure. Unions. Panel Data.

AB In this paper we consider the relationship between the firm's choice of capital structure and the unionization status of the labor force. Empirical estimates of Tobit models explaining the firm level debt-equity ratio between 1986 and 1990 lend support to the view that unionization is associated with lower leverage. This finding is robust to the analysis of empirical models based on total debt or short term debt alone. Estimations of changes in this relationship over time point to an increasingly negative impact as the decade progressed.

TI The Effect of Minimum Wages on Employment: Theory and Evidence From Britain. AU Dickens, Richard; Machin, Stephen; Manning, Alan.

TI Is the Glass Ceiling Cracking? Gender Compensation Differentials and Access to Promotion Among UK Executives. AU Gregg, Paul; Machin, Stephen.

#### Manelli, Alejandro M.

TI Approximate Competitive Equilibria in Large Economies. AU Jackson, Matthew O.; Manelli, Alejandro M.

**Mankiw, N. Gregory**

TI An Asset Allocation Puzzle. AU Canner, Niko; Mankiw, N. Gregory; Weil, David N.

**Manning, Alan**

TI Are Workers Paid Their Marginal Product? Evidence From a Low Wage Labor Market. AU Machin, Stephen; Manning, Alan; Woodland, Stephen.

TI The Effect of Minimum Wages on Employment: Theory and Evidence From Britain. AU Dickens, Richard; Machin, Stephen; Manning, Alan.

**Manski, Charles F.**

PD December 1993. TI The Mixing Problem in Program Evaluation. AA University of Wisconsin-Madison and National Bureau of Economic Research. SR National Bureau of Economic Research Technical Paper: 148; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge MA 02138. PG not available. PR \$5.00. JE D11. KW Program Evaluation. Treatment Policy. Assignment Rules.

AB A common concern of evaluation studies is to learn the distribution of outcomes when a specified treatment policy, or assignment rule, determines the treatment received by each member of a specified population. Recent studies have emphasized evaluation of policies providing the same treatment to all members of the population. In particular, experiments with randomized treatments have this objective. Policies mandating homogenous treatment of the population are of interest, but so are ones that permit treatment to vary across the population. This paper examines the use of empirical evidence on programs with homogenous treatments to infer the outcomes that would occur if treatment were to vary across the population. Experimental evidence from the Perry Preschool Project is used to illustrate the inferential problem and the main findings of the analysis.

**Marquis, Milton H.**

PD September, 1994. TI Optimal Disinflation Paths When Growth is Endogenous. AU Marquis, Milton H.; Einarsson, Tor. AA Marquis: Board of Governors of the Federal Reserve System and Florida State University. Einarsson: University of Iceland. SR Board of Governors of the Federal Reserve System Finance and Economics Discussion Series: 94-32; Board of Governors of the Federal Reserve System, C/O Sharon Kozicki, Mail Stop 61, Federal Reserve Board, Washington, DC 20551. PG 21. PR no charge. JE O42, E31, D61. KW Disinflation. Endogenous Growth. Transition Paths. Welfare Costs.

AB Traditional comparisons of the welfare costs of inflation across economies that differ only by the mean inflation rate understate these welfare costs by ignoring the stochastic elements in the economy. Moreover, these comparisons do not reflect realistic policy choices to, say, either maintain the status quo or disinflate, since they also ignore the transition. In a monetary version of the Uzawa (1965) - Lucas (1988) model of endogenous growth, it is shown that accounting for the transitional dynamics in these calculations increases the estimated benefits of disinflation. Moreover, the optimal response to a credible, rapid disinflation policy includes temporary declines in employment and output, with the former exhibiting a significant degree of persistence. These temporary

declines in employment and output are not associated with any rigidities in the economy, and therefore do not represent dead-weight losses that occur along the transition path. They are instead a reflection of the low initial human capital stock that the household wishes to build up rapidly in order to enhance long-run growth.

PD September 1994. TI An RBC Model With Growth: The Role of Human Capital. AU Marquis, Milton H.; Einarsson, Tor. AA Marquis: Board of Governors of the Federal Reserve System and Florida State University. Einarsson: University of Iceland. SR Board of Governors of the Federal Reserve System Finance and Economics Discussion Series: 94-33; Board of Governors of the Federal Reserve System, C/O Sharon Kozicki, Mail Stop 61, Federal Reserve Board, Washington, DC 20551. PG 17. PR no charge. JE E32, J24, O41. KW Business Cycles. Human Capital. Labor Market Fluctuations.

AB This paper examines an equilibrium growth model drawn from the "class of intermediate models" for which long run growth is in part endogenously determined through investment in human capital, and in part exogenously determined through Solow residual growth. To take the model to data, a human capital series is used that is based on the labor quality index constructed by Jorgenson, Gollop, and Fraumeni (1987), and adjusted for changes in the quality of the U.S. educational system, using a measure constructed by Bishop (1989). The model is then calibrated to fit the post-War U.S. data for selected series with respect to both their low frequency, secular movements and their high frequency, business cycle properties. A calibration of the model is found which fits the data reasonably well. For this calibration, the model is also shown to have the ability to resolve some outstanding issues in the RBC literature regarding the counterfactual predictions that these models have with respect to labor market fluctuations, as highlighted by Christiano and Eichenbaum (1992). Of particular interest is the model's prediction of a relatively low correlation between productivity and hours (of employment).

**Marshall, John M.**

TI Optimum College Admissions, Taxes, and Tuitions When Completion is Uncertain. AU Garratt, Rod; Marshall, John M.

TI Triage, Efficacy of Medical Treatment, and Optimum Health Insurance. AU Garratt, Rod; Marshall, John M.

TI Insurable Interest, Options to Convert and Demand for Maximums in Optimum Property Insurance. AU Garratt, Rod; Marshall, John M.

**Martinas, Katalin**

TI Waste Potential Entropy: The Ultimate Ecotoxic? AU Ayres, Robert U.; Martinas, Katalin.

**Mathieson, Donald J.**

PD June 1994. TI Establishing Monetary Control in Financial Systems With Insolvent Institutions. AU Mathieson, Donald J.; Haas, Richard D. AA International Monetary Fund. SR International Monetary Fund Papers on Policy Analysis and Assessment: PPAA/94/10; International Monetary Fund, Washington, DC 20431. PG 23. PR not available. JE E52, E58. KW Monetary Control. Central Banks. Adverse Selection. Moral Hazard.

**AB** The paper addresses the problem of establishing monetary control in financial systems with insolvent institutions. In particular, it examines the potential adverse selection, moral hazard, and collusion problems that can arise if indirect, auction-based monetary control systems are used in this environment. The analysis also considers the credit risks that can be assumed by the authorities when these market failures occur. The implications of using several alternative monetary control mechanisms including a narrow banking system, the use of credit ceilings, and a two-tier banking system are also examined.

### Matsuyama, Kiminori

**PD** October 1994. **TI** Complementarities and Cumulative Processes in Models of Monopolistic Competition. **AA** Northwestern University. **SR** Northwestern University Center for Mathematical Studies in Economics and Management Science Discussion Paper: 1106; Northwestern University, 2001 Sheridan Road, 3-014 Leverone Hall, Evanston, IL 60208-2014. **PG** 50. **PR** \$3.00 in U.S. and Canada; \$5.00 via international mail; \$2.00 for local Northwestern faculty/students. **JE** D43, D52. **KW** Complementarities. Cumulative Processes. Imperfect Competition. Incomplete Markets.

**AB** Monopolistic competition models have frequently been applied in macroeconomics, growth and development, and international and interregional economics. The three features of monopolistic competition, the monopoly power of producers, the lack of strategic interaction, and endogenous product variety, make it a useful framework to examine the aggregate implications of imperfect competition, increasing returns, and incomplete markets. This paper presents a highly selective review in this area, with special emphasis on complementarity and its role in generating multiplier processes, business cycles, clustering, underdevelopment traps, regional disparities, and sustainable growth, or more generally, what Myrdal (1957) called the "principle of circular and cumulative causation."

### McAfee, R. Preston

**PD** October 1994. **TI** Sequentially Optimal Auctions. **AU** McAfee, R. Preston; Vincent, Daniel. **AA** McAfee: University of Texas and Massachusetts Institute of Technology. Vincent: Northwestern University. **SR** Northwestern University Center for Mathematical Studies in Economics and Management Science Discussion Paper: 1104; Northwestern University, 2001 Sheridan Road, 3-014 Leverone Hall, Evanston, IL 60208-2014. **PG** 26. **PR** \$3.00 in U.S. and Canada; \$5.00 via international mail; \$2.00 for local Northwestern faculty/students. **JE** C72, C73, D44, D82. **KW** Auctions. Sequential Equilibria. Bayesian Equilibrium.

**AB** We examine equilibria in sequential auctions where a seller can post a reserve price but, if the auction fails to result in a sale, can commit keeping the object off the market only for an exogenously fixed period of time. We restrict attention to environments where bidders have independent private values and where the support of the bidder types lies strictly above the valuation of the seller. In the case where the seller sells by second price auction in each period, there is a unique perfect Bayesian equilibrium. A form of revenue equivalence is shown. There exists a perfect Bayesian equilibrium of repeated first price auctions with the feature that in every period, the seller's expected revenue from the continuation is the same in either auction mechanism. As the length of time the seller can

commit to keeping the object off the market goes to zero, seller expected revenues converge to those of a static auction with no reserve price. As the number of bidders becomes large, the seller expected revenue approaches the revenue from an optimal static auction. We also characterize a parametrized auction game in which the simple equilibrium reserve price policy of the seller mirrors a policy commonly used by many auctioneers.

### McAndrews, James J.

**PD** October 1994. **TI** Banks, Payments, and Coordination. **AU** McAndrews, James J.; Roberds, William. **AA** McAndrews: Federal Reserve Bank of Philadelphia. Roberds: Federal Reserve Bank of Atlanta. **SR** Federal Reserve Bank of Philadelphia Research Working Paper: 94-20; Working Papers, Department of Research, Federal Reserve Bank of Philadelphia, 10 Independence Mall, Philadelphia, PA 19106. **PG** 29. **PR** no charge except overseas airmail, \$3.00; checks/money orders in U.S. funds payable to Federal Reserve Bank of Philadelphia. **JE** D11, G21, G28. **KW** Banking Panics. Banks. Clearinghouse. Liquidity.

**AB** Banks are modeled as Bryant/Diamond-Dybvig "insurers" against the risk of having to consume early. However, claims to consumption goods (checks) must be verified by clearing and settlement (exchange of reserves). A clearinghouse organization does this efficiently so long as all member banks are sufficiently liquid. If liquidity (reserve) requirements cannot be enforced against all banks, then the threat of panics (high cost of liquidity) is necessary to induce banks to hold sufficient liquidity to provide for settlement. If clearinghouse banks can issue emergency currency ("loan certificates"), then banks can coexist with less liquid institutions; during periods of high liquidity demand, settlement needs of clearinghouse members can be covered with loan certificates, while reserves may be loaned out to others. However, in equilibrium, there must be an equalization of the expected utility from holding deposits at liquid- and illiquid-type intermediaries. If the return to holding reserves is low during "normal times," then in equilibrium, there have to be episodes during which the return to liquidity is abnormally high. We associate these episodes with the panics of the National Banking Era.

### McCabe, Kevin

**PD** July 1994. **TI** An Experimental Study of Learning and Limited Information in Games. **AU** McCabe, Kevin; Mukherji, Arijit; Runkle, David. **AA** McCabe and Mukherji: University of Minnesota. Runkle: Federal Reserve Bank of Minneapolis and University of Minnesota. **SR** Federal Reserve Bank of Minneapolis Staff Report: 176; Research Department, Federal Reserve Bank of Minneapolis, 250 Marquette Ave., Minneapolis, MN 55401. **PG** 28. **PR** no charge. **JE** C72, C78, C91. **KW** Learning. Mixed-Strategy. Nash Equilibrium.

**AB** We report on experiments that tested the predictions of competing theories of learning in games. Experimental subjects played a version of the three-person matching-pennies game. The unique mixed-strategy Nash equilibrium of this game is locally unstable under naive Bayesian learning. Sophisticated Bayesian learning predicts that expectations will converge to Nash equilibrium if players observe the entire history of play. Neither theory requires payoffs to be common knowledge. We develop maximum-likelihood tests for the independence

conditions implied by the mixed-strategy Nash equilibrium. We find that perfect monitoring was sufficient and complete payoff information was unnecessary for average play to be consistent with the equilibrium (as is predicted by sophisticated Bayesian learning). When subjects had imperfect monitoring and incomplete payoff information, average play was inconsistent with the equilibrium.

#### McFarland, James W.

TI Robust Tests of Forward Exchange Market Efficiency With Empirical Evidence From the 1920's. AU Phillips, Peter C. B.; McFarland, James W.; McMahan, Patrick C.

#### McGrattan, Ellen

TI Mechanics of Forming and Estimating Dynamic Linear Economies. AU Hansen, Lars Peter; McGrattan, Ellen; Sargent, Thomas.

#### McMahon, Patrick C.

TI Robust Tests of Forward Exchange Market Efficiency With Empirical Evidence From the 1920's. AU Phillips, Peter C. B.; McFarland, James W.; McMahon, Patrick C.

#### McManus, Douglas A.

PD September 1994. TI Measuring Scale and Scope Economies in Banking Using the Localized Translog Functional Form. AA Board of Governors of the Federal Reserve System. SR Board of Governors of the Federal Reserve System Finance and Economics Discussion Series: 94-30; Board of Governors of the Federal Reserve System, C/O Sharon Kozicki, Mail Stop 61, Federal Reserve Board, Washington, DC 20551. PG 17. PR no charge. JE C14, G21. KW Nonparametric Estimation. Translog Functional Form. Scale Economies. X-Efficiency.

AB This paper examines complications that arise in the nonparametric estimation of scale and scope economies. This paper presents a simple nonparametric strategy for estimating cost functions--the localization of the translog functional form--that is both easy to implement and has very desirable statistical properties. This estimator is used to fit a multiproduct cost function to data from the banking industry, and the estimates provide evidence that banking is an industry in which the major differences in efficiencies between banks are transitory. This result challenges past beliefs about X-efficiencies in banking and resolves a puzzle regarding the relative efficiencies of banks.

PD September 1994. TI Making the Cobb-Douglas Functional Form an Efficient Nonparametric Estimator Through Localization. AA Board of Governors of the Federal Reserve System. SR Board of Governors of the Federal Reserve System Finance and Economics Discussion Series: 94-31; Board of Governors of the Federal Reserve System, C/O Sharon Kozicki, Mail Stop 61, Federal Reserve Board, Washington, DC 20551. PG 11. PR no charge. JE C14, C51, D11. KW Nonparametric Estimation. Cobb-Douglas. Statistical Efficiency.

AB This paper offers a new method for nonparametric estimation--based on the Cobb-Douglas form--that is simple, easy to interpret, efficient among the class of all linear nonparametric estimators, and nearly efficient among all nonparametric estimators. Thus empirical analysts who prefer the tractability of the Cobb-Douglas form may return to using a

localized version of it with confidence that it is an efficient nonparametric estimator. This technique is applied to Nerlov's (1964) classic data set to estimate a cost function for U.S. electric utilities.

#### McMorran, Ronald T.

PD September 1994. TI Tax Policy and the Environment: Theory and Practice. AU McMorran, Ronald T.; Nellor, David C. L. AA International Monetary Fund. SR International Monetary Fund Working Paper: WP/94/106; International Monetary Fund, 700 19th Street, Washington, DC 20431. PG 16. PR not available. JE D62, H21, Q28. KW Taxation. Externalities. Environmental Taxes.

AB This paper provides a framework for examining environment taxes. It reviews the theoretical efficiency of three types of environment taxes: taxes on emissions or Pigouvian taxes; taxes on productive inputs or consumer goods whose use is related to environmental damage; and environment-related provisions in other taxes. A survey of environment taxes in 42 countries--drawn from developing countries, economies in transition, and industrial countries--illustrates that the use of environment taxes differs dramatically from the recommendations of environment tax theory. This divergence between the theory and practice of environment taxes can be attributed to several factors; environment taxes are difficult to implement, there are many factors that impede their effectiveness and their introduction may be discouraged by their implications for other policy objectives.

#### Meghir, Costas

PD August 1993. TI Intertemporal Non-Separability or Borrowing Restrictions? A Disaggregate Analysis Using the U.S. CEX Panel. AU Meghir, Costas; Weher, Guglielmo. AA Meghir: University College London and Institute for Fiscal Studies. Weher: University of Venice and Institute for Fiscal Studies. SR University College London Discussion Paper: 93-11; Department of Economics, University College London, Gower Street, London WC1E 6BT, ENGLAND. PG 45. PR 3.00 pounds; checks payable to Department of Economics, University College London. JE D12, D91, C23, C33. KW Liquidity Constraints. Intertemporal Separability. Panel Data. Euler Equations. Life-Cycle Model. Consumer Demand.

AB We propose a method to test for liquidity constraints which relies on using the within period Marginal Rate of Substitution condition as a benchmark to evaluate the intertemporal Euler equation. If spot markets for non-durable goods exist, but financial markets either do not exist, or are imperfect, we show how the comparison of first order conditions involving the relevant spot and intertemporal prices can be used to detect the imperfection. We apply our methodology to a large sample of U.S. households, drawn from eight years of the Consumer Expenditure Survey (1980-87). Our empirical results allow for a general non-separable preference structure which is empirically important. Our estimates of first order conditions obtained from the consumer dynamic optimization problem do not indicate the presence of liquidity constraints.

#### Mendoza, Enrique G.

PD August 1994. TI Monetary Transmission and Financial Indexation: Evidence From the Chilean Economy.

AU Mendoza, Enrique G.; Fernandez, Fernando.  
 AA International Monetary Fund. SR International Monetary Fund Papers on Policy Analysis and Assessment: PPAA/94/17; International Monetary Fund, Washington, DC 20431. PG 22. PR not available. JE E52, E43, E31.  
 KW Monetary Transmission. Interest Rates. Inflation.

AB This paper reviews empirical evidence on the operation of the monetary transmission mechanism based on targeting of interest rates on indexed assets in the Chilean economy. The empirical evidence has two policy implications. First, interest rates on indexed assets do not fully reflect real interest rates because of imperfections of backward indexation magnified by the variability of monthly inflation. Second, while substantial adjustments to interest rates on indexed assets affect the cyclical position of output and inflation, there is no evidence of a stable, systematic relationship between these three variables. In contrast, money growth and unexpected inflation play a significant role in the transmission mechanism. This evidence calls for an eclectic approach to monetary policy.

#### Mercenier, Jean

PD October 1994. TI Non-uniqueness of Solutions in Applied General Equilibrium Models With Scale Economies and Imperfect Competition. AA Federal Reserve Bank of Minneapolis and Universite de Montreal. SR Federal Reserve Bank of Minneapolis Staff Report: 183; Research Department, Federal Reserve Bank of Minneapolis, 250 Marquette Ave., Minneapolis, MN 55401. PG 11. PR no charge. JE C68, D58, F12, F17. KW Applied General Equilibrium. Multiple Equilibria. Strategic Trade. Policy Evaluation.

AB Applied general equilibrium models with imperfect competition and economies of scale have been extensively used for analyzing international trade and development policy issues. They offer a natural framework for testing the empirical relevance of propositions from the industrial organization and new trade theoretical literature. This paper warns model builders and users that considerable caution is needed in interpreting the results and deriving strong policy conclusions from these models: in this generation of applied general equilibrium models, non-uniqueness of equilibria is not a theoretical curiosity, but a potentially serious problem. Disregarding this may lead to dramatically wrong policy appraisals.

#### Meyermans, Eric

TI Exchange Rate Determinants in Russia: 1992-93.  
 AU Koen, Vincent; Meyermans, Eric.

#### Milesi-Ferretti, Gian Maria

PD July 1994. TI Taxation and Endogenous Growth in Open Economies. AU Milesi-Ferretti, Gian Maria; Roubini, Nouriel. AA International Monetary Fund. SR International Monetary Fund Working Paper: WP/94/77; International Monetary Fund, 700 19th Street, Washington, DC 20431. PG 28. PR not available. JE E62, O41, H21. KW Taxation. Growth. Fiscal Policy.

AB This paper examines the effects of taxation of human capital, physical capital, and foreign assets in a multi-sector model of endogenous growth. It is shown that in general the growth rate is reduced by taxes on capital and labor (human capital) income. When the government faces no borrowing constraints and is able to commit to a given set of present and

future taxes, it is shown that the optimal tax plan involves high taxation of both capital and labor in the short run. This allows the government to accumulate sufficient assets to finance spending without any recourse to distortionary taxation in the long run. When restrictions to government borrowing and lending are imposed, the model implies that human and physical capital should be taxed similarly.

#### Miller, Jeffrey B.

PD October 1994. TI Industrial Planning and the Transition to a Market Economy. AA University of Delaware. SR University of Delaware Department of Economics Working Paper: 94-12; College of Business and Economics, Department of Economics, University of Delaware, Newark, Delaware 19716-2720. PG 18. PR not available. JE O11, O19, O52. KW Economic Transition. Market Mechanism. Financial Markets.

AB The countries of Central and Eastern Europe have embarked on a difficult transition from central planning to a market economy. Strong reliance has been placed on market mechanisms, but market institutions, particularly well-functioning financial markets, cannot be created overnight. Indicative planning, a specific form of industrial policy identified with the post-World War II French experience, provides a means of supplementing the market and improving the allocation of financial resources so that these economies can be restructured.

#### Miltersen, Kristian

TI Closed Form Term Structure Derivatives in a Heath-Jarrow-Morton Model With Log-Normal Annually Compounded Interest Rates. AU Sandmann, Klaus; Sondermann, Dieter; Miltersen, Kristian.

#### Miravete, Eugenio J.

PD September 1994. TI Learning by Doing and Protection of an Infant-Industry. AA Northwestern University. SR Northwestern University Center for Mathematical Studies in Economics and Management Science Discussion Paper: 1097; Northwestern University, 2001 Sheridan Road, 3-014 Leverone Hall, Evanston, IL 60208-2014. PG 39. PR \$3.00 in U.S. and Canada; \$5.00 via international mail; \$2.00 for local Northwestern faculty/students. JE D43, D83, L13, L51. KW Learning by Doing. Time Consistency. Optimal Protection. Markov Perfect Equilibria.

AB This paper addresses an optimal tariff design to protect an infant- industry in the presence of learning effects. Firms decide how much to produce taking into account learning effects induced by their current production. In order to include different levels of bargaining power for each group of agents, each component of the welfare function is weighted with these weights taken as given. We solve the symmetric case without spillovers and fixed cost reduction due to accumulated output. Assuming that domestic and foreign production are imperfect substitutes for each other, but perfect substitutes within each group, we use a complete linear demand system to represent domestic consumers' preferences. The analytic Markov Perfect Equilibria of this game is derived by solving a linear-quadratic differential game. The optimal tariff policy is characterized and compared to Spain's tariff policy on Iron and Steel for 1913.

**Moldovanu, Benny**

PD September 1993. TI Core Implementation and Increasing Returns to Scale for Cooperation. AU Moldovanu, Benny; Winter, Eyal. AA Moldovanu: University of Bonn. Winter: Hebrew University of Jerusalem. SR Universitaet Bonn Sonderforschungsbereich 303 - Discussion Paper: B- 289; Sonderforschungsbereich 303 an der Universitaet Bonn, Adenauerallee 24-42, D-5300 Bonn 1, DEUTSCHLAND. PG 19. PR no charge. JE C72, C78. KW Non-Cooperative Bargaining. Cooperative Game. Core. Convex Game.

AB In this paper we analyze a simple non-cooperative bargaining model for coalition formation and payoff distribution for games in coalitional form. We show that under our bargaining regime a cooperative game is core-implementable if and only if it possesses the property of increasing returns to scale for cooperation. That is, the game is convex. This offers a characterization of a purely cooperative notion by means of a non-cooperative foundation.

TI Cyclical Delay in Infinite Horizon Bargaining With Externalities. AU Jehiel, Philippe; Moldovanu, Benny.

TI Strategic Non-Participation. AU Jehiel, Philippe; Moldovanu, Benny.

TI How (Not) to Sell Nuclear Weapons. AU Jehiel, Philippe; Moldovanu, Benny; Stacchetti, Ennio.

**Molho, Lazaros E.**

PD October 1994. TI Fiscal Adjustment in an Oil-Exporting Country: The Case of Indonesia. AA International Monetary Fund. SR International Monetary Fund Papers on Policy Analysis and Assessment: PPAA/94/21; International Monetary Fund, Washington, DC 20431. PG 19. PR not available. JE E62, H61, H63. KW Fiscal Policy. Oil Exports. Public Debt.

AB Faced with declining earnings from oil exports, Indonesia has mounted a sustained fiscal adjustment effort over the last decade. The budget deficits that emerged as oil tax revenues collapsed in the mid-1980's were promptly contained through cuts in public expenditure. Tax reform, together with efforts to broaden the non-oil tax base, subsequently helped restrain the fiscal deficit despite a partial recovery of public investment. While the external public debt ratio has been on a downward trend in recent years, continued efforts would be required to bring the public finances to a position that can be sustained as oil resources are depleted.

**Monroe, Hunter K.**

TI The Vertical Organization of Industry: Systems Competition Versus Component Competition. AU Farrell, Joseph; Monroe, Hunter K.; Saloner, Garth.

**Moser, Gary G.**

PD June 1994. TI The Main Determinants of Inflation in Nigeria. AA International Monetary Fund. SR International Monetary Fund Working Paper: WP/94/76; International Monetary Fund, 700 19th Street, Washington, DC 20431. PG 10. PR not available. JE E31, E37. KW Inflation. Forecasting. Monetary Policy. Nigeria.

AB This paper provides a selective review of the literature on the determinants of inflation in Nigeria, analyzes the dominant factors influencing inflation, presents the empirical results of a

reduced-form elasticities model, and discusses the policy implications of the empirical results. The results of this analysis confirm the basic findings of earlier studies, namely that monetary expansion, driven mainly by expansionary fiscal policies, explains to a large degree the inflationary process in Nigeria. Other important factors are the devaluation of the naira and agroclimatic conditions. With respect to the depreciation of the naira, it was found that concurrent fiscal and monetary policies had a major influence on its impact on inflation. Given the considerable role of food commodities in the CPI, agroclimatic conditions (rainfall) were found to play a significant role in overall movements in prices and should be fully taken into consideration in any analysis of the inflationary process in Nigeria.

**Motiere, Lionel**

TI The Market for First-Run Motion Pictures. AU Mulligan, James G.; Motiere, Lionel.

**Muco, Martha**

PD October 1994. TI Economic Transition in Albania: Progress and Problems. AA University of Tirana. SR University of Delaware Department of Economics Working Paper: 94-11; College of Business and Economics, Department of Economics, University of Delaware, Newark, Delaware 19716-2720. PG 64. PR not available. JE O11, O19, O52. KW Economic Transition. Europe. Albania.

AB This paper seeks to present an overview of the Albanian economic reform analyzing the current situation and the strong influence from the past. The advantages and disadvantages of Albania, the similarities and specifics of its model, as well as political, institutional, and mentality constraints, are discussed too.

**Muhleisen, Martin**

TI Effects of Macroeconomic Stability on Growth, Savings, and Investment in Sub-Saharan Africa: An Empirical Investigation. AU Hadjimichael, Michael T.; Ghura, Dhaneshwar; Muhleisen, Martin; Nord, Roger; Ucer, E. Murat.

**Mukherji, Arijit**

TI An Experimental Study of Learning and Limited Information in Games. AU McCabe, Kevin; Mukherji, Arijit; Runkle, David.

**Mulligan, James G.**

PD August 1994. TI The Competitive Implications of Classified Ad Pricing. AU Mulligan, James G.; Currie, James E. AA University of Delaware. SR University of Delaware Department of Economics Working Paper: 94-4; College of Business and Economics, Department of Economics, University of Delaware, Newark, Delaware 19716-2720. PG 15. PR not available. JE D42, D43, C31, M37, L82. KW Advertisement. Newspapers. Competition. Price Discrimination.

AB This paper presents results from a probit analysis of the classified ad pricing of a random sample of United States newspapers. We find that newspapers are most likely to charge lower rates for certain categories of classified ads in order to increase the percentage of households that receive their newspapers. There is no support for the hypothesis that they discriminate by category of classified ad in order to maximize

profits as would a price-discriminating monopolist. The decision to charge differential prices is unaffected by the degree of competition that the newspaper faces from other daily and weekly newspapers.

**PD** August 1994. **TI** The Market for First-Run Motion Pictures. **AU** Mulligan, James G.; Motiere, Lionel. **AA** University of Delaware. **SR** University of Delaware Department of Economics Working Paper: 94-5; College of Business and Economics, Department of Economics, University of Delaware, Newark, Delaware 19716-2720. **PG** 12. **PR** not available. **JE** C21, C51, D43, L13, L82. **KW** Entertainment Industry. Profitability. Film. Market Share. **AB** This paper offers an empirical investigation of the competitive implications of studios using formulas to reduce the risk associated with highly volatile consumer preferences. The model and empirical analysis represent an attempt to formalize what has been to date a body of anecdote-supported conjectures concerning success in this industry. The results indicate that while studios follow a version of a well-known formula for quality based on popular stars and sequels, the profitability of the movie depends also on the number of films of the same genre released and the overall share of the market captured by films of the same genre.

### Murphy, Paul

**TI** The Structure of an Environmental Transaction: The Debt-for-Nature Swap. **AU** Deacon, Robert T.; Murphy, Paul.

**PD** July 1994. **TI** Debt and Deforestation in Developing Countries. **AA** University of California, Santa Barbara. **SR** University of California, Santa Barbara Working Papers in Economics: 9-94; Working Paper Coordinator, Department of Economics, University of California, Santa Barbara, CA 93106. **PG** 21. **PR** no charge. **JE** Q23, Q28, H54. **KW** Deforestation. Debt. Credit. Constraints. Forestry.

**AB** In a setting where countries face no credit limitations, optimal investment decisions are made independent of the stock of debt in any period. However, when countries face binding credit constraints on external borrowing, investment decisions, including deforestation, cannot be separated from debt obligations. Using a two-period model in which countries choose the rate of forest depletion in conjunction with external borrowing, a positive relationship is shown to exist between debt and deforestation only when borrowing is restricted. This theory is tested empirically by investigating the relationship between deforestation and external debt using data from a cross-section of developing countries. Debt is found to be positively correlated with deforestation for those countries likely to have been credit constrained.

### Myerson, Roger B.

**PD** September 1994. **TI** Analysis of Democratic Institutions: Structure, Conduct, and Performance. **AA** Northwestern University. **SR** Northwestern University Center for Mathematical Studies in Economics and Management Science Discussion Paper: 1095; Northwestern University, 2001 Sheridan Road, 3-014 Leverone Hall, Evanston, IL 60208-2014. **PG** 17. **PR** \$3.00 in U.S. and Canada; \$5.00 via international mail; \$2.00 for local Northwestern faculty/students. **JE** D72. **KW** Electoral Systems. Voting. Constitutional Structures. Political Composition.

**AB** This paper develops an economic perspective on political theory, as a guide to some problems and directions of current research. The electoral system and the allocation of powers to elected offices together define the game that politicians play. Thus, democratic structures should be compared and evaluated by analyzing game models in order to see how equilibrium behavior of political agents may depend on the structure of the political systems. The goal of such research is to predict how the conduct of politicians and the performance of government may depend on the incentives created by the structure of the political system.

**PD** September 1994. **TI** Population Uncertainty and Poisson Games. **AA** Northwestern University. **SR** Northwestern University Center for Mathematical Studies in Economics and Management Science Discussion Paper: 1102; Northwestern University, 2001 Sheridan Road, 3-014 Leverone Hall, Evanston, IL 60208-2014. **PG** 30. **PR** \$3.00 in U.S. and Canada; \$5.00 via international mail; \$2.00 for local Northwestern faculty/students. **JE** C72, D72, D81. **KW** Population Uncertainty. Poisson Distribution. Voting Games. Pivot Probabilities.

**AB** A general class of games with population uncertainty is formulated to describe situations where the set of players is not common knowledge. Simplifying independent-actions and environmental-equivalence conditions imply that the number of players of each type are independent Poisson random variables. Equilibria of such Poisson games are defined and proven to exist. Formulas for approximating the equilibria of large Poisson games are derived, and are applied to a voting game in which participation is costly. We review how the analysis of such voting games can become more complicated and unrealistic when the set of players is assumed to be known.

**PD** September 1994. **TI** Extended Poisson Games and the Condorcet Jury Theorem. **AA** Northwestern University. **SR** Northwestern University Center for Mathematical Studies in Economics and Management Science Discussion Paper: 1103; Northwestern University, 2001 Sheridan Road, 3-014 Leverone Hall, Evanston, IL 60208-2014. **PG** 15. **PR** \$3.00 in U.S. and Canada; \$5.00 via international mail; \$2.00 for local Northwestern faculty/students. **JE** C72, D72, D81. **KW** Poisson Games. Jury Theorem. Population Uncertainty.

**AB** The Poisson model of games with population uncertainty is extended by allowing that expected population sizes and players' utility functions may depend on an unknown state of the world. Such extended Poisson games are applied to prove a generalization of the Condorcet jury theorem.

### Nakamura, Leonard I.

**TI** Branch Banking and the Geography of Bank Pricing. **AU** Calem, Paul S.; Nakamura, Leonard I.

### Narayanan, H.

**TI** On the Membership Problem Over Polymatroid Intersection. **AU** Patkar, Sachin; Subrahmanyam, K.; Narayanan, H.

**PD** June 1994. **TI** Approximation Algorithms for Min-K-Overlap Problems Using the Principal Lattice of Partitions Approach. **AU** Narayanan, H.; Roy, Subir; Patkar, Sachin. **AA** Narayanan and Roy; Indian Institute of Technology, Patkar; University of Bonn. **SR** Universitaet Bonn Sonderforschungsbereich 303 - Discussion Paper: 94827;

Sonderforschungsbereich 303 an der Universitaet Bonn, Adenauerallee 24-42, D-5300 Bonn 1, DEUTSCHLAND. PG 10. PR no charge. JE C44. KW Multicut. Submodular. Partition.

AB In this paper we discuss strategies for constructing approximate algorithms for solving the Min-k-Cut problem, the Min-k-Vertex sharing problem and their generalization the Min-k-Overlap problem. In each case, we first formulate an appropriate submodular function and construct its Principal Lattice of Partitions (PLP). Applying an elementary strategy on an appropriate subinterval of the PLP yields the approximate algorithms.

#### Needleman, Jack

TI Changing Fortunes, Hospitals Behaviors, and Ownership Forms. AU Patel, Jayendu; Needleman, Jack; Zeckhauser, Richard.

#### Neely, Christopher J.

PD December 1993. TI Target Zones and Conditional Volatility: An ARCH Application to the EMS. AA Federal Reserve Bank of St. Louis. SR Federal Reserve Bank of St. Louis Working Paper: 94-008A; Research and Public Information Division, Federal Reserve Bank of St. Louis, P.O. Box 442, St. Louis, MO 63166. PG 30. PR no charge. JE C22, C53, F31. KW Conditional Variance. Forecasting. Jump-Diffusion. Exchange Rate Mechanism.

AB This paper introduces new types of Autoregressive Conditionally Heteroskedastic (ARCH) models. These new models, standard ARCH, and jump-diffusion ARCH models are applied to nine European exchange rates to characterize the effect of a target zone system, the Exchange Rate Mechanism (ERM) of the European Monetary System (EMS), on the conditional variance process. The conditional standard deviation of exchange rates dropped 40-60% upon introduction of the ERM. Jump-diffusion ARCH models are less accurate predictors of conditional variance than models which separate the realignment process from the process within the bands. The conditional variance series around realignment periods show that there is not higher conditional volatility before realignments, but exchange rate changes are highly volatile after realignments.

PD November 1994. TI Endogenous Realignments and the Sustainability of a Target Zone. AU Neely, Christopher J.; Corbae, Dean; Weller, Paul. AA Neely: Federal Reserve Bank of St. Louis. Corbae: University of Iowa. Weller: University of Iowa and Centre for Economic Policy Research. SR Federal Reserve Bank of St. Louis Working Paper: 94-009A; Research and Public Information Division, Federal Reserve Bank of St. Louis, P.O. Box 442, St. Louis, MO 63166. PG 19. PR no charge. JE F31, F33. KW Realignments. Target Zone. Exchange Rate. Simulation.

AB We examine the effects of endogenously determined realignment expectations in a model of a target zone with sluggish price adjustment. We allow these expectations to be based on a policy rule which attaches differing weights to output and price stability. We find that for realistic parameter values even relatively small misalignments of the band lead to strongly skewed conditional distributions for the nominal exchange rate, thus generating pressures for realignment. We show that the reason for this is that the speed of adjustment in the absence of realignments is rather slow. Further, we find that variable realignment expectations impose tight limits on the

width of a sustainable band. We also find that a realignment rule designed to stabilize prices in the short run can have the opposite effect in the long run. Finally we show that even relatively infrequent realignments can substantially speed the process of adjustment to misalignment, casting doubt on the desirability of a policy designed to maintain a fully credible band in the face of significant external shocks.

#### Neeman, Zvika

PD June 1994. TI Property Rights and Efficiency of Public-Good Mechanisms Under Asymmetric Information. AA Northwestern University. SR Northwestern University Center for Mathematical Studies in Economics and Management Science Discussion Paper: 1092; Northwestern University, 2001 Sheridan Road, 3-014 Leverone Hall, Evanston, IL 60208-2014. PG 22. PR \$3.00 in U.S. and Canada; \$5.00 via international mail; \$2.00 for local Northwestern faculty/students. JE C71, C72, D82, H41, K11. KW Mechanism Design. Public Good. Property Rights. Asymmetric Information. Efficiency.

AB The Coase theorem states that in public good problems, when there are no transaction costs, once property rights are well defined, the efficient outcome will always result. In particular, the assignment of property rights has, by itself, no efficiency implications; different allocations of property rights have merely distributive consequences. Under asymmetric information, however, the situation is completely different. The results of Rob (1989) and Mailath and Postlewaite (1990) indicate that, under asymmetric information, there is no way to overcome the "free-rider" problem. As the number of agents increases, the probability of implementing the efficient outcome decreases to zero. By contrast, in this paper, we identify initial allocations of property rights that are compatible with the operation of an efficient mechanism. We present a mechanism that satisfies the conditions of incentive compatibility and individual rationality (with respect to this initial allocation of property rights) for the individuals and for the firm and that implements the efficient outcome in public good problems under asymmetric information. In this respect, we identify "efficient" property rights structures.

#### Nellor, David C. L.

TI Tax Policy and the Environment: Theory and Practice. AU McMorrin, Ronald T.; Nellor, David C. L.

#### Nemoto, Toshio

TI The Minimum-Weight Ideal Problem for Signed Posets. AU Ando, Kazutoshi; Fujishige, Satoru; Nemoto, Toshio.

#### Nett, Lorenz

PD May 1994. TI Tax Authority to the European Parliament? AA University of Mainz. SR Universitaet Bonn Sonderforschungsbereich 303 - Discussion Paper: A- 441; Sonderforschungsbereich 303 an der Universitaet Bonn, Adenauerallee 24-42, D-5300 Bonn 1, DEUTSCHLAND. PG 17. PR no charge. JE F02, H21, H41. KW Fiscal Federalism. Efficient Taxation. Provision of Public Goods.

AB In this paper we analyze whether countries of the EC community should plead for a decentralized system to finance the European funds rather than using a uniform tax imposed by the European parliament. The analysis is within a multistage game-theoretic framework in which the implication of the financing system of a confederation on the investment behavior



in the respective states is considered. The paper is in the tradition of the literature which claims that from a view of global efficiency property-rights structures inducing ex-post efficient allocations may be worse than a system leading to an ex-post inefficient allocation. For this specific economic issue we elucidate the tradeoff between incentive effects and distributional policy. Especially we demonstrate that rather homogeneous countries benefit by installing a central tax institution.

#### Neumark, David

PD June 1994. TI Biases in Twin Estimates of the Return to Schooling: A Note on Recent Research. AA University of Pennsylvania and National Bureau of Economic Research. SR National Bureau of Economic Research Technical Paper: 158; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge MA 02138. PG not available. PR \$5.00. JE C13, J24, J31. KW Education. Human Capital. Estimation.

AB Ashenfelter and Krueger's (1993) within-twin, measurement-error-corrected estimate of the return to schooling is about 13-16 percent. If their estimate is unbiased, then their results imply considerable downward measurement error bias in uncorrected within-twin estimates of the return to schooling, and considerable downward omitted ability bias in cross-section estimates. This note points out that if there are ability differences among twins, then AK's IV estimator exacerbates the omitted ability bias in the within-twin estimate. Thus, upward omitted ability bias in within-twin estimates may provide an alternative explanation of the surprisingly high estimates of the return to schooling that AK obtain, and permit their results to be reconciled with upward, rather than downward, omitted ability bias in cross-section estimates.

#### Neven, Damien

PD June 1994. TI Trade Liberalisation With Eastern Nations: How Sensitive? AA Universite de Lausanne. SR Universite de Lausanne Cahiers de Recherches Economiques: 9407; Departement d'Econometrie et d'Economie Politique, Univerite de Lausanne, BFSH1 - Dorigny, CH-1015 Lausanne, SWITZERLAND. PG 50. PR no charge. JE F13, F14, F15. KW Eastern Europe. Trade Liberalization. Political Economy.

AB This paper analyses the political economy of trade liberalization by the European Community towards Eastern Nations. We identify the sectors that are both sensitive and politically effective. We find that Eastern Nations may have a comparative advantage in industries that use capital and (relatively) unskilled labor intensively. We suggest that a shift in the distribution of income away from capital and labor in favor of human capital and regional distribution may drive the political economy of protection in the North of Europe. By contrast, the protection of specific factors may be the most important element in the South of Europe.

#### Ng, Victor K.

TI Cointegration of International Stock Market Indices. AU Chou, Ray Y.; Ng, Victor K.; Pi, Lynn K.

#### Nielsen, Jorgen

PD September 1994. TI Equity-Linked Life Insurance - A Model With Stochastic Interest Rates. AU Nielsen, Jorgen; Sandmann, Klaus. AA Nielsen: University of

Aarhus. Sandmann: University of Bonn. SR Universitaet Bonn Sonderforschungsbereich 303 - Discussion Paper: B- 291; Sonderforschungsbereich 303 an der Universitaet Bonn, Adenauerallee 24-42, D-5300 Bonn 1, DEUTSCHLAND. PG 32. PR no charge. JE G13. KW Asian Option. Forward Risk Adjusted Measure. Monte Carlo Simulations.

AB In Brennan and Schwartz (1976, 1979), the rational insurance premium on an equity-linked insurance contract was obtained through the application of the theory of contingent claims pricing. The premium was determined in an economy with the equity following a geometric Brownian motion, whereas the interest rate was assumed to be constant. Further considerations with deterministic interest rate have been discussed in Aase and Persson (1992) and in Persson (1993). Bacinello and Ortu (1993) allow for interest rate risk by assuming an Ornstein-Uhlenbeck process implying a closed form solution of the single premium endowment policy. This paper presents a model for the multi-premium case in the context of a stochastic interest rate process. It is shown that the insurance contract includes an Asian-like option contract. No closed form solution will be obtained. We discuss different numerical approaches and apply Monte Carlo simulations with a variance reduction technique.

#### Nord,

TI Effects of Macroeconomic Stability on Growth, Savings, and Investment in Sub-Saharan Africa: An Empirical Investigation. AU Hadjimichael, Michael T.; Ghura, Dhaneshwar; Muhleisen, Martin; Nord, Roger; Ucer, E. Murat.

#### Nordhaus, William D.

PD September 1994. TI Do Real Output and Real Wage Measures Capture Reality? The History of Lighting Suggests Not. AA Yale University and National Bureau of Economic Research. SR Yale Cowles Foundation Discussion Paper: 1078; Yale University, Cowles Foundation for Research in Economics, 30 Hillhouse Ave., Box 2125 Yale Station, New Haven, CT 06520. PG 56. PR no charge. JE O41, O47, N11, N12. KW Technological Change. Real Income. History of Lighting.

AB Historical studies of the growth in real wages and output depend upon the accurate measurement of the price trends of goods and services. Over long periods of time, the consumption bundle has changed profoundly, and most of today's consumption includes items that were not produced, and in some cases not even conceived, at the beginning of the 19th century. This paper tackles the issue of the quantitative significance of the qualitative change in consumption by choosing a single service-- lighting--for which the service characteristic--illumination--is invariant. We estimate changes in lighting efficiency and construct a "true" price index back to Babylonian times, with the major emphasis on changes over the last two centuries. A comparison of the true price of light with a traditional light price indicates that traditional price indexes overstate price growth, and therefore understate output growth, by a factor between 900 and 1600 since the beginning of the nineteenth century. This finding suggests that the "true" growth of real wages and real output may have been significantly understated during the period since the Industrial Revolution.

PD September 1994. TI Locational Competition and the Environment: Should Countries Harmonize Their Environmental Policies? AA Yale University. SR Yale Cowles Foundation Discussion Paper: 1079; Yale University,

Cowles Foundation for Research in Economics, 30 Hillhouse Ave., Box 2125 Yale Station, New Haven, CT 06520. PG 36. PR no charge. JE Q28, F13. KW Trade. Environment. Location.

AB In debates about economic unification or trade liberalization, it is often asked whether harmonization should go beyond taxes and macroeconomic policies to include regulations, particularly environmental policy. This issue also arises when countries, states, and cities engage in competition for plants, jobs, or exports in what we might call "locational competition." This essay analyzes locational competition with particular reference to environmental policy. The conclusions are the following: First, economic efficiency requires harmonization of policies for global environmental issues; second, for local public goods or externalities, there is a strong presumptive case against harmonization; and finally that a competitive "race to the bottom" in environmental policies is inconsistent with countries' following their own economic self-interests.

#### Nuven, Diep

PD August 1994. TI Linkages in Price Level and Inflation Rate Between CFA Franc Zone Countries and France. AA International Monetary Fund. SR International Monetary Fund Working Paper: WP/94/93; International Monetary Fund, 700 19th Street, Washington, DC 20431. PG 10. PR not available. JE C22, E37. KW Price Level. Cointegration. France.

AB The price level behaviors of the CFA franc zone countries with respect to the price level of France, defined in terms of long-run convergence in price level and short-run linear dependence of their inflation rates, are not homogenous and have a break-point in the mid 1980's except for Congo. This paper quantifies the evolution of the price level behavior of each CFA franc zone country from 1979 to 1993 using cointegration and error-correction model techniques. The interzone linkages are also examined using the simple vector autoregression model.

#### O'Brien, James M.

TI Thrift Stock Returns and Balance Sheet Interest Rate Risk Sensitivity. AU Lumpkin, Stephen A.; O'Brien, James M.

#### O'Callaghan, G.

PD July 1994. TI Recent Fiscal Developments in the European Countries of the G-7. AU O'Callaghan, G.; Habermeyer, K.; Green, J.; Henry, S. G. B.; Violi, R. AA International Monetary Fund. SR International Monetary Fund Papers on Policy Analysis and Assessment: PPAA/94/13; International Monetary Fund, Washington, DC 20431. PG 23. PR not available. JE H60. KW Fiscal Policy. National Budget.

AB This paper reviews recent fiscal developments in France, Germany, Italy, and the United Kingdom and decomposes these into their structural and cyclical parts. Developments in each country for the last five years are described in detail to identify likely reasons for the deterioration.

#### Ostry, Jonathan D.

TI Economic Reform and Structural Adjustment in East European Industry. AU Borensztein, Eduardo; Ostry, Jonathan D.

#### Ozaki, Hiroyuki

PD October 1994. TI Dynamic Programming for Non-Additive Stochastic Objectives. AU Ozaki, Hiroyuki; Streufert, Peter A. AA University of Western Ontario. SR University of Western Ontario Department of Economics Research Report: 9416; Department of Economics, Social Sciences Center, University of Western Ontario, London, Ontario, CANADA N6A 5C2. PG 21. PR \$10.00. JE C61, C62. KW Dynamic Programming. Upper Convergence. Concavity.

AB We derive the existence of an optimum and the techniques of dynamic programming for non-additive stochastic objectives. Our key assumption for nonnegative objectives is that asymptotic impatience exceeds asymptotic "mean" growth, where "mean" growth is derived not only from intertemporal inelasticity and the random return on investment but also from the curvature of the non-additive stochastic aggregator (i.e., the "certainty equivalent"). We provide broad families of new, interesting, and tractable examples. They illustrate that "mean" growth can exist even when the distribution of returns has unbounded support, that power discounting often implies infinite asymptotic impatience, and that nonpositive objectives are easily handled with few restrictions on growth.

#### Pagano, Ugo

TI Property Rights and Returns to Scale: Patents, Firms and Market Failure. AU Chichilnisky, Graciela; Heal, Geoffrey; Pagano, Ugo.

#### Pakko, Michael R.

PD August 1994. TI Characterizing Cross-Country Consumption Correlations. AA Federal Reserve Bank of St. Louis. SR Federal Reserve Bank of St. Louis Working Paper: 94-026A; Research and Public Information Division, Federal Reserve Bank of St. Louis, P.O. Box 442, St. Louis, MO 63166. PG 15. PR no charge. JE F41, F15, G15. KW Business Cycles. Consumption Correlations. Asset Markets. Contingent Claims. Risk Pooling.

AB General equilibrium models of international business cycle fluctuations which assume complete asset markets tend to predict that aggregate consumption will be highly correlated across countries, while the data display correlations which are rather low. It has become common to characterize this empirical regularity by noting that cross-country correlations tend to be lower than corresponding correlations of aggregate output. This paper reconsiders that characterization. Using data drawn from two data sets, I demonstrate that this result is not particularly robust. The paper also documents a related regularity that is far more pervasive: Consumption fluctuations are more highly correlated with domestic production than with total world output. This characterization is also contradicted by most complete-market models, and hence it offers an alternative standard for evaluating the performance of theoretical models.

#### Papi, Laura

PD June 1994. TI How Does Learning Affect Inflation After a Shift in the Exchange Rate Regime? AA International Monetary Fund. SR International Monetary Fund Working Paper: WP/94/70; International Monetary Fund, 700 19th Street, Washington, DC 20431. PG 18. PR not available. JE D82, D83, E31, F31. KW Foreign Exchange. Asymmetric Information. Inflation.

**AB** This paper analyzes the consequences of a shift from a floating to a pegged exchange rate regime on the actual and expected inflation rate, in an environment of asymmetric information. Policy making is endogenous and the public learns rationally. There are two main findings. First, there is a "honeymoon effect" after the regime change, where inflation is lower than in the long run. Second, the asymmetric information outcome converges to that of symmetric information in the long run.

#### **Papke, Leslie E.**

**PD** November 1993. **TI** Econometric Methods for Fractional Response Variables With an Application to 401(k) Plan Participation Rates. **AU** Papke, Leslie E.; Wooldridge, Jeffrey M. **AA** Papke: Michigan State University and National Bureau of Economic Research. Wooldridge: Michigan State University. **SR** National Bureau of Economic Research Technical Paper: 147; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge MA 02138. **PG** not available. **PR** \$5.00. **JE** C13, C31, C51, D12. **KW** Estimation. Probit Models. Pension Funds.

**AB** We offer simple quasi-likelihood methods for estimating regression models with a fractional dependent variable and for performing asymptotically valid inference. Compared with log-odds type procedures, there is no difficulty in recovering the regression function for the fractional variable, and there is no need to use ad hoc transformations to handle data at the extreme values of zero and one. We also offer some new, simple specification tests by nesting the logit or probit function in a more general functional form. We apply these methods to a data set of employee participation rates in 401(k) pension plans.

#### **Park, Sangkyun**

**PD** July 1994. **TI** Market Discipline By Depositors: Evidence From Reduced Form Equations. **AA** Federal Reserve Bank of St. Louis. **SR** Federal Reserve Bank of St. Louis Working Paper: 94-023A; Research and Public Information Division, Federal Reserve Bank of St. Louis, P.O. Box 442, St. Louis, MO 63166. **PG** 12. **PR** no charge. **JE** G21. **KW** Market Discipline. Bank Risk. Uninsured Deposits.

**AB** This paper examines the effects of the estimated probability of bank failure on the growth rates of large time deposits and interest rates on those deposits. While riskier banks paid higher interest rates, they attracted less large time deposits in the second half of the 1980's. These results indicate that risky banks faced unfavorable supply schedules of large time deposits and, hence, support the presence of market discipline by large time depositors. The empirical analysis also considers the effects of bank size, but fails to find evidence that depositors preferred large banks.

**PD** August 1994. **TI** Banking and Deposit Insurance as a Risk-Transfer Mechanism. **AA** Federal Reserve Bank of St. Louis. **SR** Federal Reserve Bank of St. Louis Working Paper: 94-025A; Research and Public Information Division, Federal Reserve Bank of St. Louis, P.O. Box 442, St. Louis, MO 63166. **PG** 19. **PR** no charge. **JE** G21, G28. **KW** Banks. Deposit Insurance. Risk Transfer.

**AB** This paper models an economy in which risk-averse savers and risk-neutral entrepreneurs make investment decisions. Aggregate investment in high-yielding risky projects is maximized when risk-neutral agents bear all nondiversifiable risks. A role of banks is to assume nondiversifying risks. Banks,

however, do not completely eliminate risks when monitoring by depositors is not perfect. Government deposit insurance that uses tax revenue to pay off depositors effectively transfers remaining risks to entrepreneurs. Deposit insurance improves welfare because imperfect monitoring by the government results in income transfer among risk-neutral agents rather than lower production.

#### **Patel, Jayendu**

**PD** April 1994. **TI** Changing Fortunes, Hospitals Behaviors, and Ownership Forms. **AU** Patel, Jayendu; Needleman, Jack; Zeckhauser, Richard. **AA** Harvard University. **SR** Harvard John F. Kennedy School of Government Faculty Research Working Paper Series: R94-17; John F. Kennedy School of Government, Harvard University, 79 John F. Kennedy Street, Cambridge, MA 02138. **PG** 31. **PR** no charge. **JE** I11, C21, D21, D43. **KW** Health Care. Profit Motive. Efficiency.

**AB** The U.S. hospital industry is unusual in that for-profit, private nonprofit, and public entities compete side-by-side. We evaluate alternate theories of the nonprofit form employing three approaches: an historical review of the evolution of the U.S. hospital industry, a case study, and an econometric analysis. The economic environment for hospitals has changed significantly several times in the past century. These changes provide an opportunity to learn from natural experiments; they also complicate testing theories that make predictions about steady-state equilibrium behaviors. The metaphor of an ecosystem, bringing to mind disparate organizations in coadapting relationships, helps explain the historical ebbs and flows of ownership structures in the U.S. hospital industry. For-profit hospitals are observed to be quick to enter and exit a market as conditions change, which is consistent with dynamic efficiency in resource allocation. Asymmetric advantage, strategic interaction, and path dependence prove to be important factors in determining the prevailing mix of for-profit, nonprofit, and public hospitals. Our econometric analysis focuses on hospital behaviors in California and Florida during 1982-1990, a period of momentous shift in the reimbursement system from cost-pass-through to fixed price (Prospective Payment System). We find that the reimbursement change does not lead to differences in the mix of services provided by different ownership forms. While for-profits reduce their level of uncompensated care, their payer mix of Medicare, Medicaid, and private patients continues to be similar to that of nonprofit, non-teaching hospitals. Traditional theory would suggest that for-profit hospitals would demonstrate clear cost advantages relative to nonprofits under the fixed-price regime in effect by 1990. No absolute cost advantages to for-profits emerge, not even relative success in cost containment by large-chain for-profits. The main response of large-chain for-profits to reimbursement pressures has been reorganizations, measures that have not been associated with visible gains in performance.

#### **Patkar, Sachin**

**PD** June 1994. **TI** On the Membership Problem Over Polymatroid Intersection. **AU** Patkar, Sachin; Subrahmanyam, K.; Narayanan, H. **AA** Patkar: University of Bonn. Subrahmanyam: Tata Institute of Fundamental Research. Narayanan: Indian Institute of Technology. **SR** Universitaet Bonn Sonderforschungsbereich 303 - Discussion Paper: 94825; Sonderforschungsbereich 303 an der Universitaet Bonn, Adenauerallee 24-42, D-5300 Bonn 1, DEUTSCHLAND.

PG 15. PR no charge. JE C44. KW Polymatroid Intersection. Independent Flow. Real Polymatroid Function.

AB Given two polymatroid functions  $\rho_1$  and  $\rho_2$  over a set  $E$ , and a vector in a real space of dimensionality  $E$ , a fundamental problem is to determine if  $x$  belongs to the intersection of the corresponding polymatroid polyhedra. Cunningham proposed a strongly polynomial algorithm to the problem for the special case when  $\rho_1$  and  $\rho_2$  are matroid rank functions. However the question has remained open for general  $\rho_1$  and  $\rho_2$ . We propose a pseudo-polynomial time algorithm when  $\rho_1$  and  $\rho_2$  are real. We adopt a network flow approach, based on Fujishige's algorithm for independent flow. Fujishige however assumed the existence of subroutines for the fundamental functions of  $\rho_1$  and  $\rho_2$ , and also left open the question of showing the polynomiality of his algorithm for independent flow. We show in this paper that at each stage of the algorithm the flow graph can be constructed in pseudo-polynomial time. This is based on a recent rounding technique developed in for testing membership over real polymatroids. Using the CBFS scheme developed by Lawler and Martel, and by Cunningham we show that the total number of network flow stages is polynomial. This gives a pseudo-polynomial time algorithm for testing membership over polymatroid intersection.

PD June 1994. TI Abstract and Generic Rigidity in the Plane. AU Patkar, Sachin; Servatius, Brigitte; Subrahmanyam, K. AA Patkar: University of Bonn. Servatius: Worcester Polytechnic Institute. Subrahmanyam: Tata Institute of Fundamental Research. SR Universitaet Bonn Sonderforschungsbereich 303 - Discussion Paper: 94826; Sonderforschungsbereich 303 an der Universitaet Bonn, Adenauerallee 24-42, D-5300 Bonn 1, DEUTSCHLAND. PG 21. PR no charge. JE C44. KW Planar Rigidity. Rigidity Matroids.

AB We consider the concept of abstract 2-dimensional rigidity and provide necessary and sufficient conditions for a matroid to be an abstract rigidity matroid of a complete graph. This characterization is a natural extension of the characterization of graphic matroids due to Graver or Sachs. We further indicate the extension of this characterization to that of the generic rigidity matroid and point out the error in the characterization of the generic rigidity matroid presented in earlier work by Servatius. We also give an example of an abstract rigidity matroid which is not infinitesimal.

TI Approximation Algorithms for Min-K-Overlap Problems Using the Principal Lattice of Partitions Approach. AU Narayanan, H.; Roy, Subir; Patkar, Sachin.

### Pereira, Alfredo

TI The Debt Crisis: Lessons of the 1980's for the 1990's. AU Kaminsky, Graciela L.; Pereira, Alfredo.

### Perotti, Roberto

TI The Political Economy of Budget Deficits. AU Alesina, Alberto; Perotti, Roberto.

### Perraudin, William

PD October 1994. TI Modeling Exchange Rates in Continuous Time: Theory, Estimation and Option Pricing. AU Perraudin, William; Sorensen, Bent E. AA Perraudin: University of Cambridge and Centre for Economic Policy Research. Sorensen: Brown University. SR Brown

University Department of Economics Working Paper: 94-25; Department of Economics, Brown University, Providence, RI 02912. PG 15. PR no charge. JE F31, G12, G13, C32. KW Exchange Rate. Option Pricing. GMM. Stochastic Volatility. Jump Risk.

AB Recent research on contingent claims valuation has assumed increasingly general models of the behavior of cash securities. Relatively few attempts have been made to implement and evaluate such models empirically, however. In this paper, we apply a multi-factor, continuous time pricing model to foreign exchange and interest rate data for five countries. The model allows for: (i) stochastic volatility, (ii) non-diversifiable jump risk, and (iii) stochastic interest rates. Using simulations, we examine the significance of different features of the model for option pricing. We conclude that, at least for our data set, jumps and stochastic volatility have little impact on option pricing if one knows the average volatility over the life of the option. However, the inclusion and precise specification of stochastic interest rates are surprisingly important.

### Petchey, Jeffrey

TI Federal Stability and Secession. AU Shapiro, Perry; Petchey, Jeffrey.

PD December 1994. TI "One People One Destiny": The Concentration of Power and Conflicts of Interest in Australian Federalism. AU Petchey, Jeffrey; Shapiro, Perry. AA Shapiro: University of California, Santa Barbara. Petchey: Australian National University. SR University of California, Santa Barbara Working Papers in Economics: 19-94; Working Paper Coordinator, Department of Economics, University of California, Santa Barbara, CA 93106. PG 18. PR no charge. JE H73, H77, D72. KW Centralization. Interstate Cooperation. Treaties.

AB Since federation in 1901, taxation powers in Australia have become highly centralized. This has led to an increase in the power of the central government, the Commonwealth, relative to the states. By most yardsticks, Australia now has one of the most centralized federations. One of the main arguments used in support of centralization is that states pursue purely state interests and do not take into account the national interest implications of their decisions. It is argued that the centre takes into account the national interest and, therefore, achieves superior policy outcomes (i.e., central action Pareto dominates independent state policy). We challenge this claim using a model in which citizens have different preferences and social choice decisions are made by majority rule. We show that, contrary to the view often put forward, centralized policies are not superior to state decisions. The reason is that some states, who are not part of the national decision-making majority, lose autonomy as a result of centralization. For these states, this loss outweighs any benefits from having the national interest taken into account by the central government. There is, therefore, a conflict between state and national interest. The implications of this result for centralization in Australia, and indeed emerging and existing federations, are highlighted. It is also shown that inter-state compacts are an alternative way for states to reap the benefits from coordinated policy action without the loss of self-determination inherent in centralism.

### Peters, H. Elizabeth

TI Survey Attrition and Schooling Choices. AU Falaris, Evangelos M.; Peters, H. Elizabeth.

**Pezzey, John**

TI Economic Theory and "Sustainability". AU Toman, Michael A.; Pezzey, John; Krantkraemer, Jeffrey.

**Phillips, Peter C. B.**

PD September 1994. TI Robust Tests of Forward Exchange Market Efficiency With Empirical Evidence From the 1920's. AU Phillips, Peter C. B.; McFarland, James W.; McMahon, Patrick C. AA Phillips: Yale University. McFarland and McMahon: Tulane University. SR Yale Cowles Foundation Discussion Paper: 1080; Yale University, Cowles Foundation for Research in Economics, 30 Hillhouse Ave., Box 2125 Yale Station, New Haven, CT 06520. PG 33. PR no charge. JE C32, C12, C13, F31. KW Cointegration. Exchange Rates. Robust Estimation. Tail Behavior. Unbiased Predictor.

AB This paper provides a robust statistical approach to testing the unbiasedness hypothesis in forward exchange market efficiency studies. The methods we use allow us to work explicitly with levels rather than differenced data. They are statistically robust to data distributions with heavy tails, and they can be applied to data sets where the frequency of observation and the futures maturity do not coincide. In addition, our methods allow for stochastic trend nonstationarity and general forms of serial dependence. The methods are applied to daily data of spot exchange rates and forward exchange rates during the 1920's, which marked the first episode of a broadly general floating exchange rate system. The tail behavior of the data is analyzed using an adaptive data-based method for estimating the tail slope of the density. The results confirm the need for the use of robust regression methods. We find cointegration between the forward rate and spot rate for the four currencies we consider (the Belgian and French francs, the Italian lira, and the U.S. dollar), we find support for a stationary risk premium in the case of the Belgian franc, the Italian lira, and the U.S. dollar, and we find support for the simple market efficiency hypothesis (where the forward rate is an unbiased predictor of the future spot rate and there is a zero mean risk premium) in the case of the U.S. dollar.

PD September 1994. TI Nonstationary Time Series and Cointegration: Recent Books and Themes for the Future. AA Yale University. SR Yale Cowles Foundation Discussion Paper: 1081; Yale University, Cowles Foundation for Research in Economics, 30 Hillhouse Ave., Box 2125 Yale Station, New Haven, CT 06520. PG 13. PR no charge. JE C44, C32, B41. KW Nonstationarity. Cointegration. Economic Methodology.

AB Given the potential for empirical economic applications, the wide ranging problems of modeling methodology, and the host of technical issues and fascinating asymptotics that nonstationary time series has spawned, it is understandable why so much activity has been going on in the subject at so many different levels. It is probably fair to say that the subject of nonstationary time series has brought together a wider group of participants and excited more interest than any subject in econometrics since the development of simultaneous equations theory in the early days of the Cowles Commission.

TI Fully Modified IV, GIVE and GMM Estimation With Possibly Non-Stationary Regressors and Instruments. AU Kitamura, Y.; Phillips, Peter C. B.

PD September 1994. TI Model Determination and Macroeconomic Activity. AA Yale University. SR Yale

Cowles Foundation Discussion Paper: 1083; Yale University, Cowles Foundation for Research in Economics, 30 Hillhouse Ave., Box 2125 Yale Station, New Haven, CT 06520. PG 89. PR no charge. JE C52, C11, C53. KW Bayesian Asymptotics. Cointegration. Embedding. Location Model.

AB The subject of this paper is modeling, estimation, inference, and prediction for economic time series. Bayesian and classical approaches are considered. The paper has three main parts. The first is concerned with Bayesian model determination, forecast evaluation, and the construction of evolving sequences of models that can adapt in dimension and form (including the way in which any nonstationarity in the data is modeled) as new characteristics in the data become evident. This part of the paper continues some recent work on Bayesian asymptotics by the author and Werner Ploberger, develops embedding techniques for vector martingales that justify the role of a general class of exponential densities in model selection and forecast evaluation, and implements the modeling ideas in a multivariate regression framework that includes Bayesian vector autoregressions (BVAR's) and reduced rank regressions (RRR's). It is shown how the theory in the paper can be used: (i) to construct optimized BVAR's with data-determined hyperparameters; (ii) to compare models such as BVAR's, optimized BVAR's and RRR's; (iii) to perform joint order selection of cointegrating rank, lag length and trend degree in a VAR; and (iv) to discard data that may be irrelevant and thereby help determine the "lifetime" of an econometric model. Simulations are conducted to study the forecasting performance of these model determination procedures in some multiple time series models with cointegration. The final part of the paper reports an empirical application of these ideas and methods to U.S. and UK macroeconomic data.

**Pi, Lynn K.**

TI Cointegration of International Stock Market Indices. AU Chou, Ray Y.; Ng, Victor K.; Pi, Lynn K.

**Piehl, Anne Morrison**

PD April 1994. TI Learning While Doing Time. AA Harvard University. SR Harvard John F. Kennedy School of Government Faculty Research Working Paper Series: R94-25; John F. Kennedy School of Government, Harvard University, 79 John F. Kennedy Street, Cambridge, MA 02138. PG 31. PR no charge. JE I21, I28, K42. KW Education. Criminal Activity. Prison.

AB The poorly-educated are over-represented among the nation's prisoners. In addition, low educational achievement is associated with higher rates of recidivism and shorter durations between terms. This paper uses a unique micro-level data set of Wisconsin inmates to show that the completion of adult basic and high school education programs while in prison is significantly associated with lower recidivism. To correct for possible positive selection bias in these estimates, a variety of specifications are proposed and estimated. Although without experimental data one can never be sure, the results give no indication of significant selection bias. The reduction in recidivism due to prison education programs could result in substantial savings, primarily from lower corrections expenditures and social savings due to crimes averted.

TI Cross-City Evidence on the Relationship Between Immigration and Crime. AU Butcher, Kristin F.; Piehl, Anne Morrison.

**Pippenger, John**

TI Testing for Absolute Purchasing Power Parity. AU Crownover, Collin; Pippenger, John; Steigerwald, Douglas G.

**Ploberger, Werner**

TI Testing for Serial Correlation Against an ARMA(1,1) Process. AU Andrews, Donald W. K.; Ploberger, Werner.

**Porter, Richard D.**

TI The Predictive Failure of the Baba, Hendry and Starr Model of the Demand for M1 in the United States. AU Hess, Gregory D.; Jones, Christopher S.; Porter, Richard D.

TI The Predictive Failure of the Baba, Hendry and Starr Model of the Demand for M1 in the United States. AU Hess, Gregory D.; Jones, Christopher S.; Porter, Richard D.

**Potts, C. N.**

TI Local Search Heuristics for Single Machine Scheduling With Batching to Minimize the Number of Late Jobs. AU Crauwels, H. A. J.; Potts, C. N.; Van Wassenhove, L. N.

TI Local Search Heuristics for Single Machine Tardiness Sequencing. AU Crauwels, H. A. J.; Potts, C. N.; Van Wassenhove, L. N.

**Powers, Michael R.**

PD August 1994. TI Insurance Market Games: Scale Effects and Public Policy. AU Powers, Michael R.; Shubik, Martin; Yao, Shun. AA Powers: Temple University. Shubik: Yale University. Yao: University of Wellington. SR Yale Cowles Foundation Discussion Paper: 1076; Yale University, Cowles Foundation for Research in Economics, 30 Hillhouse Ave., Box 2125 Yale Station, New Haven, CT 06520. PG 26. PR no charge. JE C72, D43. KW Insurance Market Games. Scale Effects. Public Policy.

AB We propose a game-theoretic model to study various effects of scale in an insurance market. After reviewing a simple static model, we present a one-period game in which both the buyers and sellers of insurance make strategic bids, and show that, under reasonably broad conditions, market equilibrium exists. For a special case, we then consider how both the price and quantity of insurance, as well as other quantities of interest to public policy decision makers, are affected by the number of insurance firms, the number of customers, and the total amount of capital provided by investors.

**Prasad, Eswar**

TI Are Prices Countercyclical? Evidence From the G-7. AU Chadha, Bankim; Prasad, Eswar.

PD August 1994. TI The Canadian Labor Market: Developments, Prospects, and Policy. AA International Monetary Fund. SR International Monetary Fund Working Paper: WP/94/97; International Monetary Fund, 700 19th Street, Washington, DC 20431. PG 17. PR not available. JE E24, J21, J65. KW Labor Market. Unemployment. Government Policy.

AB This paper examines recent developments in the Canadian labor market. Using disaggregated labor market data, various hypotheses concerning the slow employment growth and rise in unemployment since 1990 are evaluated. The

analysis indicates that a large part of the recent rise in the unemployment rate may reflect an increase in the structural rather than the cyclical component of unemployment. Various sources of labor market rigidities that may have contributed to the increase in structural unemployment are examined. In particular, the role of the unemployment insurance system in contributing to labor market rigidity and measures for reforming this system in contributing to labor market rigidity and measures for reforming this system, including the recent proposals of the government, are discussed. Finally, this paper examines active labor market policies that could help to alleviate structural unemployment.

**Prescott, Edward**

TI Valuation Equilibria With Clubs. AU Cole, Harold; Prescott, Edward.

TI The Computational Experiment: An Econometric Tool. AU Kydland, Finn; Prescott, Edward.

**Preston, Ian**

TI Fiscal Anarchy in the UK AU Besley, T.; Preston, Ian; Ridge, Michael.

PD September 1994. TI Demand for Local Public Spending: Evidence From the British Social Attitudes Survey. AU Preston, Ian; Ridge, Michael. AA Preston: University College London and Institute of Fiscal Studies. Ridge: University College London. SR University College London Discussion Paper: 94-10; Department of Economics, University College London, Gower Street, London WC1E 6BT, ENGLAND. PG 22. PR 3.00 pounds; checks payable to Department of Economics, University College London. JE H41, H42, D12, R51. KW Public Spending. Social Attitudes. Tiebout Sorting. Fiscal Illusion. Poll Tax.

AB The British Social Attitudes Survey (BSAS) is a UK wide survey that provides a rich source of information on individuals' attitudes to a variety of topics including locally provided services. In this paper we seek to model answers to questions on attitudes to local authority spending which invite the expression of a private demand for local public spending. A convincing picture has emerged of locally provided public goods as imperfectly congested public goods, with a price elastic and probably income inelastic demand. The view that central government grants may induce voter confusion over tax prices of public services also finds support.

**Quirk, Peter J.**

PD July 1994. TI Capital Account Convertibility: A New Model for Developing Countries. AA International Monetary Fund. SR International Monetary Fund Working Paper: WP/94/81; International Monetary Fund, 700 19th Street, Washington, DC 20431. PG 19. PR not available. JE F31, E63, O16. KW Foreign Exchange. Stabilization. Development.

AB This paper analyzes issues for developing countries considering a move to capital account convertibility. It reviews the relevant literature, including arguments for sequencing, and analyses in a series of charts various features of the foreign exchange market impact of removing controls, as against the alternative of foreign exchange intervention. Finally, it examines recent experiences of capital account liberalization by developing countries in the context of multi-pronged stabilization programs.

**PD** August 1994. **TI** Adopting Currency Convertibility: Experiences and Monetary Policy Considerations for Advanced Developing Countries. **AA** International Monetary Fund. **SR** International Monetary Fund Working Paper: WP/94/96; International Monetary Fund, 700 19th Street, Washington, DC 20431. **PG** 18. **PR** not available. **JE** E42, E52, F32, O19. **KW** Currency Conversion. Economic Transition. Capital Movements.

**AB** This paper analyzes issues for developing countries with structurally sound balance of payments that are considering a move to full currency convertibility. The main experiences of industrial countries in their decontrol of international capital transactions are reviewed, with an emphasis on the implications for monetary policy. The paper deals both with stabilization, and the prudential issues, which are especially important in view of the potential for speculative bubbles. Respective roles of the international organizations, IMF, OECD, and the GATT, in assisting the capital liberalization process are discussed.

#### **Raff, Daniel M. G.**

**TI** Business History From the Microeconomic Perspective. **AU** Lamoreaux, Naomi R.; Raff, Daniel M. G.

**TI** Localized Competition and the Aggregation of Plant-Level Increasing Returns: Blast Furnaces 1929-1935. **AU** Bertin, Amy L.; Bresnahan, Timothy F.; Raff, Daniel M. G.

#### **Ranis, Gustav**

**PD** October 1994. **TI** The World Bank Near the Turn of the Century. **AA** not available. **SR** Yale Economic Growth Center Discussion Paper: 712; Economic Growth Center, Yale University, Box 208269, Yale Station, New Haven CT 06520. **PG** 30. **PR** \$2.00 + postage. **JE** F21, F33, F34, O11, O16. **KW** World Bank. Capital Flows. Lending Practices. Development Research.

**AB** This paper attempts to assess the World Bank's record of performance as principal lender, generator of ideas, and purveyor of advice. It also examines its internal structure, its method of operation, and its relations with the other actors on the development stage. Given the recently increased flows of private capital to the middle income countries, on the one hand, and the increased need for IDA money, on the other, we see a need for a redefinition of the Bank's central role. Moreover, we find the dominance of country and global lending targets, along with the absence of meaningful decentralization and capillary action between the conceptual and operating wings of the institution, to be the main obstacles to better performance. On the occasion of the fiftieth anniversary of Bretton Woods we then turn to offering some suggestions for the future. These include a more open and participatory approach with respect to non-Bank ideas, non-Bank lenders, and the borrowing countries. We also suggest that the internal personnel promotion culture of the Bank constitutes an important dimension of the problem to be overcome.

#### **Ravid, S. Abraham**

**TI** Asymmetric Information, Corporate Myopia, and Implications for Capital Gains Tax Rate. **AU** Chemmanur, Thomas; Ravid, S. Abraham.

#### **Richell, Yves**

**TI** International Trade and Environmental Policy:

Production vs. Consumption Taxes. **AU** Cadot, Olivier; Hung, Nguyen Manh; Richell, Yves.

#### **Richthofen, Peter**

**TI** The Financial System in the Transition: The Special Case of East Germany. **AU** Carlin, Wendy; Richthofen, Peter.

#### **Ridge, Michael**

**TI** Fiscal Anarchy in the UK **AU** Besley, T.; Preston, Ian; Ridge, Michael.

**TI** Demand for Local Public Spending: Evidence From the British Social Attitudes Survey. **AU** Preston, Ian; Ridge, Michael.

#### **Rizzo, John A.**

**TI** Competition and Specialization in the Hospital Industry: An Application of Hotelling's Location Model. **AU** Callem, Paul S.; Rizzo, John A.

#### **Roberds, William**

**TI** Banks, Payments, and Coordination. **AU** McAndrews, James J.; Roberds, William.

#### **Robertson, Thomas S.**

**TI** Inducing Multi-Line Sales people to Adopt House Brands. **AU** Anderson, Erin; Robertson, Thomas S.

#### **Robson, Arthur**

**PD** May 1994. **TI** On the Evolution of the Distribution of Income. **AU** Robson, Arthur; Holtz Wooders, Myrna. **AA** Robson: University of Western Ontario. Holtz Wooders: University of Toronto. **SR** University of Western Ontario Department of Economics Research Report: 9409; Department of Economics, Social Sciences Center, University of Western Ontario, London, Ontario, CANADA N6A 5C2. **PG** 18. **PR** \$10.00. **JE** D33, D24, H23, O41. **KW** Evolution. Growth Path. Marginal Product. Growth Dominated.

**AB** This paper presents a social selection argument based on population growth to bolster marginal productivity theory. Consider an economy with a single output produced according to constant returns to scale from a number of different types of labor. Suppose each type of labor is reproduced according to a constant returns to scale technology from that labor itself and from the amount of the output devoted to it. Output is distributed across the input production processes according to some arbitrary norm. Any norm which fails to induce convergence to maximal balanced growth is "growth dominated" in the sense that the population it induces can eventually be overwhelmed. It is shown that on the maximal balanced growth path, the norm must divide output over the types of labor according to their marginal products. An example investigates the effects of exogenous social mobility. For this example it is shown that one type may be paid less than another, but it may also maximize the balanced growth rate to pay the poorer type more than its marginal product and the richer type less. This provides a novel rationale for redistributive taxation.

#### **Robson, William**

**TI** Endogenous Buffer Stock Money. **AU** Laidler, David; Robson, William.

**Roldos, Jorge E.**

**PD** July 1994. **TI** Supply-Side Effects of Disinflation Programs. **AA** International Monetary Fund. **SR** International Monetary Fund Working Paper: WP/94/84; International Monetary Fund, 700 19th Street, Washington, DC 20431. **PG** 18. **PR** not available. **JE** F41, F31, E31. **KW** Foreign Exchange. Capital Movements. Inflation.

**AB** This paper focuses on the short-run and long-run supply-side effects of disinflation programs in a two-sector economy. Fixing the exchange rate reduces the wedge between the return on foreign assets and that on domestic capital, leading to an increase in the latter. After an initial real exchange rate appreciation and increase in the production of nontradables--due to a consumption boom--the new capital is gradually installed in the tradable sector. During this transitional period, further real appreciation takes place--as the expansion of the tradable sector pulls labor away from the non-tradable sector--together with investment-driven deficits in the current account. We conclude that when appreciation and deficits are due to supply-side rigidities, rather than to credibility and/or price stickiness, no further policies (i.e., capital controls, incomes policies) are advisable.

**Roley, V. Vance**

**PD** December 1994. **TI** Time Series Variation in the Interest-Rate Response to Money Announcements: A Re-Examination of the Evidence. **AU** Roley, V. Vance; Wheatley, Simon M. **AA** Roley: University of Washington. Wheatley: University of Chicago. **SR** Federal Reserve Bank of Kansas City Research Working Paper: 94-08; Research Division, Federal Reserve Bank of Kansas City, 925 Grand Blvd., Kansas City, MO 64198. **PG** 16. **PR** no charge. **JE** C32, E43, E51. **KW** Time-Series Analysis. Interest Rates. Money Supply.

**AB** Initial studies examining the interest-rate response to money- announcement surprises estimate significantly different responses following major Federal Reserve policy changes in October 1979, October 1982, and February 1984. Subsequent studies challenge this discrete- shift policy-regime model. One such challenge is presented by LeSage (1992), who identifies 21 response shifts between October 1977 and January 1986. We report two problems with LeSage's work. First, in our attempt to replicate his results, we estimate far fewer response shifts in his multiprocess mixture model. Second, when we examine the significance of his model's results, we find very little evidence against the discrete-shift policy-regime model. Related studies using random-walk Kalman-filter models and Quandt's procedure, among other techniques, also suffer from this second problem. We find that these studies provide no evidence against the policy-regime model.

**PD** December 1994. **TI** Are Japanese Interest Rates Too Stable? **AU** Roley, V. Vance; Bonser-Neal, Catherine. **AA** Roley: University of Washington. Bonser-Neal: Federal Reserve Bank of Kansas City. **SR** Federal Reserve Bank of Kansas City Research Working Paper: 94-09; Research Division, Federal Reserve Bank of Kansas City, 925 Grand Blvd., Kansas City, MO 64198. **PG** 21. **PR** no charge. **JE** E43, F31, G15. **KW** Interest Rates. Financial Integration. Japan.

**AB** We examine the effects of Japanese financial market liberalization using daily data on Eurocurrency and two Japanese onshore interest rates, the Gensaki and CD rates. Our evidence suggests that Japanese money markets are now fully

integrated with world markets, but that the degree of integration depends heavily on the Japanese asset examined. In particular, we find that the Gensaki market is not completely integrated with the Euroyen market. The CD rate, however, is cointegrated with the Euroyen rate since June 1984, and the Euroyen - CD rate variance ratio is similar to that of dollar-denominated assets after November 1988.

**Rolnick, Arthur**

**PD** July 1994. **TI** Inflation, Money, and Output Under Alternative Monetary Standards. **AU** Rolnick, Arthur; Weber, Warren. **AA** Rolnick: Federal Reserve Bank of Minneapolis. Weber: Federal Reserve Bank of Minneapolis and University of Minnesota. **SR** Federal Reserve Bank of Minneapolis Staff Report: 175; Research Department, Federal Reserve Bank of Minneapolis, 250 Marquette Ave., Minneapolis, MN 55401. **PG** 15. **PR** no charge. **JE** E42, E51, E52, N20. **KW** Inflation. Money Growth. Monetary Standards. Commodity Money. Fiat Money.

**AB** Our study examines whether there is a systematic relationship between the monetary standard under which a country operates and the rate of inflation it experiences. It also explores whether there are other properties of inflation, money, and output that differ between economies operating under a commodity standard and economies operating under a fiat standard. The basis for our study is price, money, and output data for eleven countries that have operated under both types of monetary standards. For each of these countries the data cover 80 years, and for most the data cover over 100 years. With these data we are able to establish several facts about the differences in inflation, money growth, and output growth between economies operating under commodity standards and those operating under fiat standards. Specifically, we find that the following facts emerge when comparing commodity standards to fiat standards: inflation, money growth, and output growth are all lower; growth rates of monetary aggregates are less highly correlated with each other; growth rates of monetary aggregates are less highly correlated with inflation; and growth rates of monetary aggregates are more highly correlated with output growth.

**Rose, Andrew K.**

**TI** Speculative Attacks on Pegged Exchange Rates: An Empirical Exploration With Special Reference to the European Monetary System. **AU** Eichengreen, Barry; Rose, Andrew K.; Wyplosz, Charles.

**TI** Is There a Safe Passage to EMU? Evidence on Capital Controls and a Proposal. **AU** Eichengreen, Barry; Rose, Andrew K.; Wyplosz, Charles.

**Roubini, Nouriel**

**TI** Taxation and Endogenous Growth in Open Economies. **AU** Milesi-Ferretti, Gian Maria; Roubini, Nouriel.

**Roumasset, James**

**PD** August 1994. **TI** Explaining Diversity in Agricultural Organization: An Agency Perspective. **AA** University of Hawaii. **SR** University of Minnesota Economic Development Center Bulletin: 94-3; Department of Agricultural and Applied Economics, 232 Classroom Office Building, University of Minnesota, St. Paul, MN 55108. **PG** 42. **PR** no charge. **JE** D23, L22, Q15.



**KW Agricultural Contracts. Share Tenancy.**

**AB** The economics of internal organization, the New Institutional Economics, and the New Classical Microeconomics provide a dynamic new approach to industrial organization. Long standing dissatisfaction with representing the firm as nothing more than a production function has led to exciting investigations into organizational matters such as contractual form, methods of compensation, hierarchy, and vertical integration. Our purpose here is to synthesize this theory as it applies to labor contracts and the nature of the agricultural firm, illustrate how the theory can be used to explain empirical patterns in the employment relation, and extend the theory to explain particular patterns in agricultural labor contracts. Our primary objective is to demonstrate the utility of the theory for explaining agricultural organization and to suggest a methodology for empirical investigation.

**Roy, Subir**

**TI** Approximation Algorithms for Min-K-Overlap Problems Using the Principal Lattice of Partitions Approach. **AU** Narayanan, H.; Roy, Subir; Patkar, Sachin.

**Rudolph, Jenny W.**

**TI** Assessing Needle Exchange and Distribution: The Limits of Benefit- Cost Analysis. **AU** Kleiman, Mark A. R.; Rudolph, Jenny W.

**Rumelt, Richard P.**

**PD** October 1994. **TI** Inertia and Transformation. **AA** INSEAD. **SR** INSEAD Working Papers: 94/62/SM; INSEAD, Boulevard de Constance, Fontainebleau, 77305 Cedex, FRANCE. **PG** 22. **PR** not available. **JE** D23. **KW** Organizational Behavior. Plasticity.

**AB** In this article I argue that strategy scholars have incorrectly borrowed from economists the assumption of organizational plasticity. Particularly in large firms, inertia, rather than plasticity, is the norm. Unfortunately, there can be no simple theory of inertia as its causes are multiple and varied. After sketching out the shapes of the most important sources of inertia, I turn to the problem of overcoming inertia--the question of organizational transformation. Starting with a simple model of organizational capabilities as existing on two levels (unit-based and rooted in coordination among units), I draw some preliminary conclusions about the shape of organizational transformation. In particular, I focus on the interplay between incentive intensity and coordinative capacity and argue that most transformations move through a sequence of phases in which coordinative capacity is first dramatically reduced and then rebuilt along new lines.

**Runkle, David**

**TI** Alternative Computational Approaches to Inference in the Multinomial Probit Model. **AU** Geweke, John; Keane, Michael; Runkle, David.

**TI** An Experimental Study of Learning and Limited Information in Games. **AU** McCabe, Kevin; Mukherji, Arijit; Runkle, David.

**TI** Statistical Inference in the Multinomial Multiperiod Probit Model. **AU** Geweke, John; Keane, Michael; Runkle, David.

**Ryan, Chris**

**TI** The Impact of Controls on Capital Movements on the Private Capital Accounts of Countries' Balance of Payments: Empirical Estimates and Policy Implications. **AU** Johnston, R. Barry; Ryan, Chris.

**Saal, Matthew I.**

**PD** June 1994. **TI** Use of Central Bank Credit Auctions in Economies in Transition. **AU** Saal, Matthew I.; Zamalloa, Lorena M. **AA** International Monetary Fund. **SR** International Monetary Fund Papers on Policy Analysis and Assessment: PPAA/94/11; International Monetary Fund, Washington, DC 20431. **PG** 20. **PR** not available. **JE** E52, E58. **KW** Monetary Control. Central Banks. Credit Auctions.

**AB** A number of economies in transition have instituted central bank credit auctions as part of a package of reforms seeking to improve monetary control and foster money market development. This paper examines the use of those auctions and features of their design, including collateralization and access rules intended to minimize adverse selection and moral hazard. The implementation of credit auctions in Eastern Europe and the former Soviet Union is surveyed. The experiences of countries in Eastern Europe suggest that credit auctions can be a useful tool in the transition towards indirect monetary control and the development of interbank markets.

**Saari, Donald G.**

**PD** June 1994. **TI** A Chaotic Exploration of Aggregation Paradoxes. **AA** Northwestern University. **SR** Northwestern University Center for Mathematical Studies in Economics and Management Science Discussion Paper: 1091; Northwestern University, 2001 Sheridan Road, 3-014 Leverone Hall, Evanston, IL 60208-2014. **PG** 17. **PR** \$3.00 in U.S. and Canada; \$5.00 via international mail; \$2.00 for local Northwestern faculty/students. **JE** C44, C61. **KW** Positional Voting. Paradoxes. Chaos. Kruskal Wallis Test. **AB** Paradoxes from statistics and decision sciences form amusing, yet intriguing, mathematical puzzles. On deeper examinations, they constitute serious problems that could cause us, unintentionally, to adopt inferior alternatives. It is indicated here how ideas from "dynamic chaos" and orbits of symmetry groups can be modified and combined to create a mathematical theory to understand, classify, and find new properties of these puzzling phenomena.

**Saint-Paul, Gilles**

**PD** June 1994. **TI** Are the Unemployed Unemployable? **AA** CERAS, ENPC, DELTA, and International Monetary Fund. **SR** International Monetary Fund Working Paper: WP/94/64; International Monetary Fund, 700 19th Street, Washington, DC 20431. **PG** 18. **PR** not available. **JE** J64, J65, J68. **KW** Labor Markets. Unemployment. Public Policy.

**AB** This paper develops a matching model for the labor market under wage rigidity when hiring decisions are irreversible. There are two types of workers, the skilled and the unskilled. The model is used to analyze whether technological advances may have increased unemployment. It is shown that it is likely to be so if they are associated with an increase in the productivity and/or the supply of skilled workers relative to unskilled workers. These effects are stronger when hiring decisions are more irreversible.

**Sala-i-Martin, Xavier**

TI Quality Improvements in Models of Growth.  
 AU Barro, Robert J.; Sala-i-Martin, Xavier.

PD October 1994. TI Regional Cohesion: Evidence and Theories of Regional Growth and Convergence. AA Yale University. SR Yale Economic Growth Center Discussion Paper: 716; Economic Growth Center, Yale University, Box 208269, Yale Station, New Haven CT 06520. PG 46. PR \$2.00 + postage. JE O41, O51, O52, O53. KW Endogenous Growth. Capital Mobility. Technological Diffusion.

AB After arguing that the concepts of beta-convergence and sigma-convergence are independently interesting, this paper extends the empirical evidence on regional growth and convergence across the United States, Japan, and five European nations. We confirm that the estimated speeds of convergence are surprisingly similar across data sets: regions tend to converge at a speed of approximately two percent per year. We also show that the interregional distribution of income in all countries has shrunk over time. We then argue that, among the proposed potential explanations of this phenomenon, the one-sector neoclassical growth model and the hypothesis of technological diffusion seem to be the only ones which survive scrutiny.

**Salomon, Marc**

PD 1994. TI Discrete Lotsizing and Scheduling With Sequence Dependent Setup Times and Setup Costs. AU Salomon, Marc; Solomon, Marius M.; Van Wassenhove, L. N.; Dumas, Yvan; Dauzere-Peres, Stephane. AA Salomon and Dauzere-Peres: Erasmus University. Solomon: Northeastern University. Van Wassenhove: INSEAD. Dumas: University of Montreal. SR INSEAD Working Papers: 94/46/TM; INSEAD, Boulevard de Constance, Fontainebleau, 77305 Cedex, FRANCE. PG 14. PR not available. JE C61, C63. KW Lotsizing. Sequencing. Traveling Salesman Problem with Time Windows. Dynamic Programming.

AB In this paper we consider the Discrete Lotsizing and Scheduling Problem with sequence dependent setup costs and setup times (DLSPSD). DLSPSD contains elements from lotsizing as well as from sequencing, and is known to be NP-Hard. An exact solution procedure for DLSPSD is developed, based on a transformation of DLSP into a Traveling Salesman Problem with Time Windows (TSPTW). TSPTW is solved by a novel dynamic programming approach due to Dumas et al. (1993). The results of a computational study show that the algorithm is the first one capable of solving DLSPSD problems of moderate size to optimality with a reasonable computational effort.

**Saloner, Garth**

TI The Vertical Organization of Industry: Systems Competition Versus Component Competition. AU Farrell, Joseph; Monroe, Hunter K.; Saloner, Garth.

**Samson, Lucie**

TI Bayesian Evaluation of Preference Specifications. AU Gordon, Stephen F.; Samson, Lucie; Carmichael, Benoit.

**Samuelson, Larry**

TI Musical Chains: Modeling Noisy Evolution.

AU Binmore, Kenneth; Samuelson, Larry; Vaughan, Richard.

TI Learning to be Imperfect: The Ultimatum Game.  
 AU Gale, John; Binmore, Kenneth; Samuelson, Larry.

**Sandmann, Klaus**

PD July 1994. TI Closed Form Term Structure Derivatives in a Heath-Jarrow-Morton Model With Log-Normal Annually Compounded Interest Rates. AU Sandmann, Klaus; Sondermann, Dieter; Miltersen, Kristian. AA Sandmann and Sondermann: University of Bonn. Miltersen: Odense University. SR Universitaet Bonn Sonderforschungsbereich 303 - Discussion Paper: B- 285; Sonderforschungsbereich 303 an der Universitaet Bonn, Adenauerallee 24-42, D-5300 Bonn 1, DEUTSCHLAND. PG 13. PR no charge. JE G13. KW Arbitrage. Debt Options. Annually Compounded Rates. Log Normal. Heath-Jarrow-Morton Model. Option Pricing. Term Structure of Interest Rates.

AB Starting with observable annually compounded forward rates we derive a term structure model of interest rates. The model relies upon the assumption that a specific set of annually compounded forward rates is log-normally distributed. We derive solutions for interest rate caps and floors as well as puts and calls written on zero-coupon bonds. In particular, for caplets with payment periods of same length as the compounding period (in our paper we have chosen one year, but it could be as well three or six months with quarterly or biannual compounding) we obtain the same Black formula as often used by market practitioners, however, without making the unrealistic assumption that forward rates are independent of the accumulation process. Moreover, the log-normal assumption is shown to be consistent with the Heath-Jarrow-Morton model for a specific choice of volatility.

TI Equity-Linked Life Insurance - A Model With Stochastic Interest Rates. AU Nielsen, Jorgen; Sandmann, Klaus.

**Sargent, Thomas**

TI Mechanics of Forming and Estimating Dynamic Linear Economies. AU Hansen, Lars Peter; McGrattan, Ellen; Sargent, Thomas.

**Sarin, Rajiu**

TI Learning Through Reinforcement and Replicator Dynamics. AU Borgens, Tilman; Sarin, Rajiu.

**Scaramozzino, Pasquali**

TI Capital Structure Choice and Unionization: An Empirical Investigation Using UK Micro Data. AU Machin, Stephen; Scaramozzino, Pasquali.

PD April 1994. TI Investment Irreversibility and Finance Constraints. AA University College London. SR University College London Discussion Paper: 94-07; Department of Economics, University College London, Gower Street, London WC1E 6BT, ENGLAND. PG 20. PR 3.00 pounds; checks payable to Department of Economics, University College London. JE E22, C23, G31, G32. KW Investment. Financing Policy. Panel Data.

AB This paper analyses the investment behavior of firms in the presence of irreversibility and of a dividend payout constraint. Estimation of investment equations for a panel of UK firms shows that the q model performs satisfactorily over

those regions of the sample space where neither constraint is expected to be binding. The constraints are able to explain the empirical significance of cash flow variables in investment equations.

#### Schaefer, Scott

TI The Allocation of Decisions in Organizations. AU Athey, Susan; Gans, Joshua; Schaefer, Scott; Stern, Scott.

#### Schmeidler, David

TI Reaction to Price Changes and Aspiration Level Adjustments. AU Gilboa, Itzhak; Schmeidler, David.

#### Schmidt, Klaus

PD July 1994. TI The Interaction of Explicit and Implicit Contracts. AU Schmidt, Klaus; Schnitzer, Monika. AA University of Bonn. SR Universitaet Bonn Sonderforschungsbereich 303 - Discussion Paper: A- 452; Sonderforschungsbereich 303 an der Universitaet Bonn, Adenauerallee 24-42, D-5300 Bonn 1, DEUTSCHLAND. PG 15. PR no charge. JE L14, C72, J33. KW Implicit Contracts. Repeated Games.

AB We analyze explicit and implicit contracts in a repeated principal-agent model with observable but only partially contractible actions of the agent. It is shown that the set of implementable actions may increase or decrease if additional actions become contractible.

#### Schmutzler, Armin

TI Product and Process Flexibility: Implications for Organizational Design. AU Athey, Susan; Schmutzler, Armin.

#### Schnitzer, Monika

TI The Interaction of Explicit and Implicit Contracts. AU Schmidt, Klaus; Schnitzer, Monika.

#### Schultz, T. Paul

PD May 1994. TI Human Capital and Economic Development. AA not available. SR Yale Economic Growth Center Discussion Paper: 711; Economic Growth Center, Yale University, Box 208269, Yale Station, New Haven CT 06520. PG 31. PR \$2.00 + postage. JE E23, I12, I21, D24. KW Education. Productivity. Nutrition. Health. Africa.

AB Education, child nutrition, adult health/nutrition, and labor mobility are critical factors in achieving recent sustained growth in total factor productivity in the world. A flexible specification of labor productivity or wage function is estimated that includes as arguments these four human capital inputs measured in recent household (LSMS) surveys of Cote d'Ivoire and Ghana. Specification tests are implemented to assess whether the human capital inputs are exogenous, and instrumental variable techniques are then used to estimate Leontief-Diewert functional forms. Overall returns to these four forms of human capital realized by men and women are similar within each country, but education and migration returns are higher in the more rapidly growing Cote d'Ivoire, and nutrition and health returns are higher in the less well-nourished Ghanaian population.

#### Schwartz, Gerd

TI Output Decline and Government Expenditures in European Transition Economies. AU Chu, Ke-young; Schwartz, Gerd.

#### Schweizer, Martin

PD June 1994. TI On the Minimal Martingale Measure and the Foellmer-Schweizer Decomposition. AA University Goettingen. SR Universitaet Bonn Sonderforschungsbereich 303 - Discussion Paper: B- 284; Sonderforschungsbereich 303 an der Universitaet Bonn, Adenauerallee 24-42, D-5300 Bonn 1, DEUTSCHLAND. PG 19. PR no charge. JE G10, C60. KW Minimal Signed Martingale Measure. Foellmer-Schweizer Decomposition. Martingale Densities. Structure Condition. Semimartingales.

AB We provide three characterizations of the minimal martingale measure  $\mathbb{P}$  associated to a given d-dimensional semimartingale X. In each case,  $\mathbb{P}$  is shown to be the unique solution of an optimization problem where one minimizes a certain functional over a suitable class of signed local martingale measures for X. Furthermore, we extend a result of Ansel and Stricker on the Foellmer-Schweizer decomposition to the case where X is continuous, but multidimensional.

#### Schweizer, Urs

PD January 1994. TI Endogenous Fertility and the Henry George Theorem. AA University of Bonn. SR Universitaet Bonn Sonderforschungsbereich 303 - Discussion Paper: A- 427; Sonderforschungsbereich 303 an der Universitaet Bonn, Adenauerallee 24-42, D-5300 Bonn 1, DEUTSCHLAND. PG 19. PR no charge. JE D71, D90, H41, J13. KW OLG. Club Theory. Local Public Goods. Henry George Theorem. Efficiency. Endogenous Fertility.

AB Models of endogenous demographic change deal with population size as an additional object of the welfare analysis. Hereby, the overlapping generations (OLG) model serves as the basic framework. In club theory, population size is also treated as an endogenous variable. In local public goods (LPG) models, the so-called Henry George Theorem which requires local public expenditures to be financed by a 100% tax on aggregate land rent is known as a condition for club efficiency. The present paper establishes and exploits the relation between steady states of the OLG model and allocations of the LPG model. In spite of Samuelson's fallacy concerning his golden rule, this rule as well as the Henry George Theorem as its LPG counterpart are shown to keep some meaning, not only as a necessary, but also as a sufficient condition for efficiency.

#### Segal, Lewis M.

TI Small Sample Bias in GMM Estimation of Covariance Structures. AU Altonji, Joseph G.; Segal, Lewis M.

#### Sellon, Gordon H. Jr

PD December 1994. TI Measuring Monetary Policy. AA Federal Reserve Bank of Kansas City. SR Federal Reserve Bank of Kansas City Research Working Paper: 94-12; Research Division, Federal Reserve Bank of Kansas City, 925 Grand Blvd., Kansas City, MO 64198. PG 22. PR no charge. JE E52, E58. KW Monetary Policy. Federal Reserve. Central Banks.

AB In the past few years there has been renewed interest in investigating the channels by which monetary policy affects the economy and in measuring the quantitative impact of policy

actions. Central to these efforts is the need for an accurate measure of the timing and magnitude of policy actions. This paper presents a newly constructed measure of policy actions using changes in Federal Reserve operating targets and the discount rate to identify all discretionary policy changes over the 1974-1993 period. This measure appears to be superior to traditional policy measures, such as market interest rates and the monetary aggregates which mix policy actions and market shocks, and to qualitative or "narrative" measures which omit information about some policy actions.

**TI** Monetary Policy Without Intermediate Targets: Federal Reserve Policy Since 1983. **AU** Hakkio, Craig S.; Sellon, Gordon H. Jr.

### Sengupta, Jati K.

**PD** October 1994. **TI** Entropy, Efficiency and the Productivity Index Numbers. **AA** University of California, Santa Barbara. **SR** University of California, Santa Barbara Working Papers in Economics: 15-94; Working Paper Coordinator, Department of Economics, University of California, Santa Barbara, CA 93106. **PG** 23. **PR** no charge. **JE** D24. **KW** Productivity Measurement. Entropy Measures. Index Numbers.

**AB** The efficiency distributions resulting from the models in data envelopment analysis are analyzed here through the entropy criterion and the various index numbers. Several illustrative examples discuss the usefulness of these methods in the framework of panel data.

### Serrano, Roberto

**PD** June 1994. **TI** The Three-Legged Race: Cooperating to Compete. **AU** Serrano, Roberto; Zapater, Inigo. **AA** Brown University. **SR** Brown University Department of Economics Working Paper: 94-19; Department of Economics, Brown University, Providence, RI 02912. **PG** 19. **PR** no charge. **JE** C72. **KW** Contest. Prisoners' Dilemma. Competition. Renegotiation. Proofness.

**AB** We analyze the prisoners' dilemma contest, in which several couples play the finitely repeated prisoners' dilemma. Each time a couple cooperates it scores a point. A prize is awarded to the winning couple or couples. If couples are informed about each other's past performance, there are problems of existence of equilibrium. On the other hand, with a very small prize when compared to the total payoffs of the game, the cooperative outcome is obtained under imperfect information on past performance. Unlike the earlier literature, this result relies on the competition among the couples, not on the introduction of irrationality or on infinite horizon "folk" theorem type of punishments.

### Servatius, Brigitte

**TI** Abstract and Generic Rigidity in the Plane. **AU** Patkar, Sachin; Servatius, Brigitte; Subrahmanyam, K.

### Shaffer, Sherrill

**PD** August 1994. **TI** Evidence of Monopoly Power Among Credit Card Banks. **AA** Federal Reserve Bank of Philadelphia. **SR** Federal Reserve Bank of Philadelphia Research Working Paper: 94-16; Working Papers, Department of Research, Federal Reserve Bank of Philadelphia, 10 Independence Mall, Philadelphia, PA 19106. **PG** 16. **PR** no charge except overseas airmail, \$3.00; checks/money

orders in U.S. funds payable to Federal Reserve Bank of Philadelphia. **JE** D83, G21, G28, L12. **KW** Credit Cards. Monopoly Power. Search Costs.

**AB** This paper estimates a structural model of conduct among 43 credit card banks over a ten-year period. The sample exhibits substantial monopoly power overall, but it is not uniformly distributed across the individual banks. The Fair Credit and Charge Card Disclosure Act of 1988 failed to improve the degree of competition, suggesting that search costs are not the primary source of the observed monopoly power.

**PD** August 1994. **TI** Chaos, Taxes, Stabilization, and Turnover. **AA** Federal Reserve Bank of Philadelphia. **SR** Federal Reserve Bank of Philadelphia Research Working Paper: 94-18; Working Papers, Department of Research, Federal Reserve Bank of Philadelphia, 10 Independence Mall, Philadelphia, PA 19106. **PG** 8. **PR** no charge except overseas airmail, \$3.00; checks/money orders in U.S. funds payable to Federal Reserve Bank of Philadelphia. **JE** C61, D21, H21, H25. **KW** Taxation. Chaos Theory. Corporate Profits.

**AB** This note demonstrates three contributions of chaos theory to economic analysis. Because fixed points of chaotic systems can exceed the mean values of orbits away from fixed points, nonlinearity can imply benefits of stabilization not found in linear systems. Moreover, a constant proportional tax on corporate profits can modify the time path and volatility of profits and investment, such as by inducing transitions between chaotic and periodic behavior or between orbits and fixed points. Finally, chaotic models can explain rank turnover among asymmetric firms that is too frequent to result from linear stochastic models.

### Shapiro, Perry

**PD** November 1994. **TI** Estimating the Demand for Public Goods: Comments and Extensions. **AU** Shapiro, Perry; Deacon, Robert T. **AA** University of California, Santa Barbara. **SR** University of California, Santa Barbara Working Papers in Economics: 16-94; Working Paper Coordinator, Department of Economics, University of California, Santa Barbara, CA 93106. **PG** 18. **PR** no charge. **JE** H41, Q21, Q28. **KW** Public Goods. Collective Choice. Contingent Valuation.

**AB** Oates (1994) has provided an excellent survey of the most commonly used collective choice demand estimation methods and assessed their potential for assigning values to non-market goods and services. This paper tries to extend his survey and to critically examine some of the practical problems that any attempt to apply these methods would encounter. Most important in our view is the problem of price measurement. Although work has been done on the incidence of local taxes, the incidence results obtained to date have not yet been integrated into the demand estimation process. Without a proper measure of what people think they are paying for public goods it is impossible to correctly evaluate the potential benefits from further public expenditures. This is a problem that confronts all collective choice demand estimation approaches.

**PD** November 1994. **TI** Federal Stability and Secession. **AU** Shapiro, Perry; Petchey, Jeffrey. **AA** Shapiro: University of California, Santa Barbara. Petchey: Australian National University. **SR** University of California, Santa Barbara Working Papers in Economics: 18-94; Working Paper Coordinator, Department of Economics, University of

California, Santa Barbara, CA 93106. PG 25. PR no charge. JE H41, H77, F02. KW Secession. Core. Public Goods.

AB There are many examples of contemporary federation and de-federation. This raises the question of what constitutes a stable federation. We address this by developing a model of a federation with costless secession and no inter-participant transfers and show that for a union to be stable the public good supply must be "close" to the quantity demanded by the median. The median's preferences are, therefore, central to the question of federal stability, as well as the question of whether secession is possible. Finally, we extend the analysis to allow for costly secession and inter-participant transfers, and provide a challenge to Buchanan's view that secession should be a constitutional right of entry to a federation. What we show is that costly secession can have significant benefits, and that in some circumstances, federations which have costly secession can offer higher benefits to participants and may be preferred to federation with free secession.

TI "One People One Destiny": The Concentration of Power and Conflicts of Interest in Australian Federalism. AU Petchey, Jeffrey; Shapiro, Perry.

### Shiller, Robert J.

PD July 1994. TI Home Equity Insurance. AU Shiller, Robert J.; Weiss, Allan N. AA Shiller: Yale University. Weiss: Case Shiller Weiss, Inc. SR Yale Cowles Foundation Discussion Paper: 1074; Yale University, Cowles Foundation for Research in Economics, 30 Hillhouse Ave., Box 2125 Yale Station, New Haven, CT 06520. PG 51. PR no charge. JE G22. KW Real Estate. Insurance. Mortgage. Homeowners. Futures. Options.

AB Home equity insurance policies, policies insuring homeowners against declines in the price of their homes, would bear some resemblance both to ordinary insurance and to financial hedging vehicles. A menu of choices for the design of such policies is presented here, and conceptual issues are discussed. Choices include pass-through futures and options, in which the insurance company in effect serves as a retailer to homeowners of short positions in real estate futures markets or of put options on real estate. Another choice is a life-event-triggered insurance policy, in which the homeowner pays regular fixed insurance premia and is entitled to a claim if both there is a sufficient decline in the real estate price index and a specified life event (such as a move beyond a certain geographical distance) occurs. Pricing of the premia to cover loss experience is derived, and tables of break-even policy premia are shown, based on estimated models of Los Angeles housing prices 1971-91.

### Shimomura, Ken-Ichi

PD December 1994. TI Quasi-Cores in Bargaining Sets. AA Brown University and Kyoto University. SR Brown University Department of Economics Working Paper: 94-26; Department of Economics, Brown University, Providence, RI 02912. PG 18. PR no charge. JE C71. KW Coalitional Game. Bargaining Set. Quasi-Cores.

AB An objection from a coalition to a recommended outcome is justified if it has no further objection from a different coalition to the objection. For each coalitional game, the Nas-Colell Bargaining Set is the set of individually rational payoff profiles that have no justified objections. We propose a nonempty sub-solution of the Mas-Colell Bargaining Set on the

class of TU games satisfying grand coalition zero-monotonicity, a weaker condition than superadditivity, zero-monotonicity, and balancedness. The sub-solution is a slight modification of the Shapley-Shubik Quasi-Core. The Zhou Bargaining Set is a refinement of the Mas-Colell Bargaining Set. We also give a nonempty sub-solution of the Zhou Bargaining Set on the class of the TU games satisfying grand coalition superadditivity, a weaker condition than superadditivity, and balancedness. This sub-solution is a modification of the Zhou Bargaining Set which is described by excesses.

### Shin, Richard T.

TI Viable Competition in Local Telephone: Superadditive Costs in the Post-Divestiture Period. AU Ying, John S.; Shin, Richard T.

### Shirai, Sayuri

PD August 1994. TI How Does Industrialization Affect the Structure of International Trade? The Japanese Experience in the Pacific Basin, 1975-85. AU Shirai, Sayuri; Huang, Dong-Pei. AA International Monetary Fund. SR International Monetary Fund Working Paper: WP/94/95; International Monetary Fund, 700 19th Street, Washington, DC 20431. PG 24. PR not available. JE F12, F14. KW International Trade. Industrialization. Product Differentiation.

AB This paper provides a theoretical model to address the issue of how industrialization affects the structure of international trade. Considering both horizontal and vertical product differentiation, the model shows that intra-industry trade increases when product quality improvement emerges in a developing country and when a difference in relative factor endowments between a developed and a developing country shrinks. To promote understanding of the conclusions of the model, the paper also uses actual trade data between Japan and Indonesia and between Japan and Korea.

### Shubik, Martin

TI Insurance Market Games: Scale Effects and Public Policy. AU Powers, Michael R.; Shubik, Martin; Yao, Shun.

### Sicsic, Pierre

PD July 1994. TI French Postwar Growth: From (Indicative) Planning to (Administered) Market. AU Sicsic, Pierre; Wyplosz, Charles. AA Sicsic: Banque de France and Centre for Economic Policy. Wyplosz: INSEAD. SR INSEAD Working Papers: 94/56/EPS; INSEAD, Boulevard de Constance, Fontainebleau, 77305 Cedex, FRANCE. PG 31. PR not available. JE O52. KW France. Growth.

AB France's post-war growth has gone through four phases. The strong growth performance of the 50's was helped by a catch-up phenomenon on best foreign practices, and by a positive effect of capital rejuvenation. yet, the best performance comes next and cover a period of nearly twenty years starting around 1958 and coming to an abrupt end in 1973. The macro treatment of the oil shock was less than happy, and the supply side measures came to a standstill. The 80's did not prove to be better, even though further liberalization measures were taken, this time concerning financial markets as well the privatization of a significant part of still state-owned industry. Despite several waves of liberalization, mostly after the creation of the

EEC and the return of the franc to convertibility, both in 1958, and then in the eighties, France still appears to be struggling with lingering powerful rigidities. Labor market institutions and human capital accumulation may have replaced protection and inefficient productive capital accumulation as the main source of slower growth.

### Singh, Lakhwinder

PD August 1994. TI Productivity, Competitiveness, and Export Growth in a Less Developed Economy: A Study of Indian Punjab. AA not available. SR Yale Economic Growth Center Discussion Paper: 714; Economic Growth Center, Yale University, Box 208269, Yale Station, New Haven CT 06520. PG 27. PR \$2.00 + postage. JE E23, O53, O31. KW Technology. R&D. India. Development.

AB The development process has undergone varied experience with regard to growth, productivity, and exports. Economic literature and empirical evidence on economic growth across developing countries are suggestive about the relation between exports and growth. These aspects of economic growth have been tested empirically while considering the industrial sector of Indian Punjab. The main conclusions which have emerged from empirical analysis is that fast industrial growth has been supported by significant technological progress which reduced the cost of production and enhanced the competitiveness of its industrial exports. The R&D expenditure is mainly adaptive in nature and affects technological progress significantly. Finally, changes in the industrial policy process have been suggested which integrate not only growing agricultural surpluses and labor force but will also ensure rapid technological growth and competitiveness of this sector.

### Slagmulder, Regine

PD April 1994. TI An Empirical Study of Capital Budgeting Practices for Strategic Investments in C.I.M. Technologies. AU Slagmulder, Regine; Bruggeman, Werner; Van Wassenhove, L. N. AA Slagmulder and Bruggeman: University of Ghent, Belgium. Van Wassenhove: INSEAD. SR INSEAD Working Papers: 94/53/TM; INSEAD, Boulevard de Constance, Fontainebleau, 77305 Cedex, FRANCE. PG 32. PR not available. JE G31. KW Capital Budgeting. Strategic Investment. CIM Technology.

AB In recent years, an increasing number of companies have been struggling to justify strategic technology investments using traditional capital budgeting systems. The existing accounting-based decision models (such as discounted cash-flow) are said to be no longer adequate to help evaluate investments in technological innovation, mainly because of the strategic, intangible nature of the benefits involved. As a result, traditional capital budgeting methods have been heavily criticized of discouraging the adoption of advanced manufacturing technologies and thus undermining the competitiveness of western firms. Some authors would argue that the only alternative is to exempt these strategic investments from the control of accounting systems, while others have developed sophisticated methods for performing an integrated strategic and financial investment analysis. At this point, however, it is still unclear which approach is prevalent in practice and which factors contribute to effective investment decisions. This empirical study attempts to shed some light on the problem by examining the capital budgeting practices of

firms as applied to strategic investments in Computer-Integrated Manufacturing (CIM) technologies. Questionnaire data are used to provide a better insight into the ways in which manufacturing firms go about controlling major investments in technological innovation. In addition, tentative findings are presented about hypothesized relationships between characteristics of the investment decision making process and the perceived ex post financial performance of CIM investments.

### Smith, Jeffrey

TI Making the Most Out of Social Experiments: Reducing the Intrinsic Uncertainty in Evidence From Randomized Trials With an Application to the National JTPA Experiment. AU Clements, Nancy; Smith, Jeffrey; Heckman, James J.

### Smith, Pamela J.

PD November 1994. TI Estimation of Inter-Industry and Inter-Regional Knowledge Spillovers Using Patents Data: An Endowments Approach. AA University of Delaware. SR University of Delaware Department of Economics Working Paper: 94-16; College of Business and Economics, Department of Economics, University of Delaware, Newark, Delaware 19716-2720. PG 18. PR not available. JE O47, E22, F14. KW Spillovers. Endowments. Knowledge. Growth.

AB This paper provides empirical estimates of inter-industry and inter-regional knowledge spillovers in two time periods. The analysis focuses on spillovers of knowledge across manufacturing industries and across the states of the U.S. The paper takes an endowments approach that merges concepts from the factor proportions trade literature and the growth literature on spillover effects. This approach allows simultaneous evaluation of inter-industry and inter-regional knowledge spillovers and enhances interpretation of comparative advantage. Knowledge variables are measured with patents data detailed by state and industry and with weights based on geographic proximity. Empirical results show "inter-industry" knowledge spillovers within a state contribute to the state's output growth in stone, fabricated metals, and transportation during the period 1976-79, and in petroleum during the period 1983-86. "Interstate" knowledge spillovers are shown to contribute to a state's output growth in chemicals, petroleum, primary metals, fabricated metals, and electronics during the period 1976-79 and in petroleum, stone, electronics, and instruments during the period 1983-86.

### Snower, Dennis J.

PD July 1994. TI The Low-Skill, Bad-Job Trap. AA Birbeck College, University of London and International Monetary Fund. SR International Monetary Fund Working Paper: WP/94/83; International Monetary Fund, 700 19th Street, Washington, DC 20431. PG 13. PR not available. JE D21, D83, E24, J23, J31. KW Human Capital. Job Training. Externalities. Employment.

AB The paper explains how a country can fall into a "low-skill, bad-job trap," in which workers acquire insufficient training and firms provide insufficient skilled vacancies. In particular, the paper argues that in countries where a large proportion of the workforce is unskilled, firms have little incentive to provide good jobs (requiring high skills and providing high wages), and if few good jobs are available, workers have little incentive to acquire skills. In this context,

the paper examines the need and effectiveness of training policy, and provides a possible explanation for why western countries have responded so differently to the broad-based shift in labor demand from unskilled to skilled labor.

#### Solomon, Marius M.

**TI** Discrete Lot sizing and Scheduling With Sequence Dependent Setup Times and Setup Costs. **AU** Salomon, Marc; Solomon, Marius M.; Van Wassenhove, L. N.; Dumas, Yvan; Dauzere-Peres, Stephane.

#### Sondermann, Dieter

**TI** Closed Form Term Structure Derivatives in a Heath-Jarrow-Morton Model With Log-Normal Annually Compounded Interest Rates. **AU** Sandmann, Klaus; Sondermann, Dieter; Miltersen, Kristian.

#### Sorensen, Bent E.

**TI** Finding Cointegration Rank in High Dimensional Systems Using the Johansen Test: An Illustration Using Data Based Monte Carlo Simulations. **AU** Ho, Mun S.; Sorensen, Bent E.

**TI** Modeling Exchange Rates in Continuous Time: Theory, Estimation and Option Pricing. **AU** Perraudin, William; Sorensen, Bent E.

#### Sorin, Sylvain

**TI** Epsilon-Consistent Equilibrium. **AU** Lehrer, Ehud; Sorin, Sylvain.

**TI** One-Shot Public Mediated Talk. **AU** Lehrer, Ehud; Sorin, Sylvain.

#### Spagat, Michael

**TI** Human Capital and Long-Run Growth in Russia: A Cautionary Perspective. **AU** Fan, Ca. Simon; Spagat, Michael.

**PD** August 1994. **TI** Human Capital, Instability and Foreign Investment in Transition Economies. **AA** Brown University. **SR** Brown University Department of Economics Working Paper: 94-16; Department of Economics, Brown University, Providence, RI 02912. **PG** 27. **PR** no charge. **JE** P00, F21, K24, P04, P15, I02. **KW** Human Capital. Transition Economies. Instability. Foreign Investment. Long-Run Growth.

**AB** This paper presents a precise theoretical model to argue that lending to the former Eastern Bloc nations in support of maintaining the region's human capital is sound policy (a) in that will allow recipient nations to enjoy the long-run benefits of having a large stock of human capital (rather than allowing this stock to wither permanently in the short run), (b) in that lenders can receive fully competitive rates of return, (c) in that future foreign investors will be able to return high rates of return on supplies of physical capital. An informal argument is made that former Eastern Bloc nations may otherwise export instability.

#### Srinivasan, T. N.

**PD** April 1994. **TI** Price Normalization and Equilibria in General Equilibrium Models of International Trade Under Imperfect Competition. **AU** Srinivasan, T. N.; Kletzer, Kenneth. **AA** not available. **SR** Yale Economic Growth

Center Discussion Paper: 710; Economic Growth Center, Yale University, Box 208269, Yale Station, New Haven CT 06520. **PG** 19. **PR** \$2.00 + postage. **JE** D58, D43, H23. **KW** General Equilibrium. Monopolistic Competition. Price Normalization.

**AB** Applied general equilibrium modeling has become a widely used tool in analyzing the effects of changes in tax and trade policies of developed and developing countries. Some of these models introduce non-competitive market structures into the analysis to capture market imperfections in real economies. However, in these applications the difficulties encountered by theorists for extending general equilibrium analysis to economies with monopolistic competition and oligopoly have been ignored. In particular, some of the applications (which depart from the large-group-free-entry-zero-profit variant of the Chamberlinian monopolistic competition) are especially vulnerable to the critique that the results can be very sensitive to the arbitrary choice of price normalization. We illustrate how price normalization matters in a model representative of those used in the trade literature with oligopoly imply that the effects of policy changes on welfare and resource allocation are sensitive to the choice of numeraire in these models.

#### Stacchetti, Ennio

**TI** How (Not) to Sell Nuclear Weapons. **AU** Jehiel, Philippe; Moldovanu, Benny; Stacchetti, Ennio.

#### Staff of European I Department

**PD** September 1994. **TI** Eastern Europe--Factors Underlying the Weakening Performance of Tax Revenues. **AA** International Monetary Fund. **SR** International Monetary Fund Working Paper: WP/94/104; International Monetary Fund, 700 19th Street, Washington, DC 20431. **PG** 13. **PR** not available. **JE** H21, H31, H32, H61, P35. **KW** Taxation. Government Policy. National Budget. Europe.

**AB** The paper analyzes the decline of tax revenue/GDP ratios in transition economies of central and eastern Europe. The paper separates the effect on revenues of discretionary policy actions and finds that endogenous factors, notably the collapse of underlying profits and declining effective tax rates, were the main source of falling tax revenue/GDP ratios. Underlying factors are analyzed to provide a basis to discuss the outlook for tax revenues in coming years.

#### Staiger, Douglas

**PD** January 1994. **TI** Instrumental Variables Regression With Weak Instruments. **AU** Staiger, Douglas; Stock, James H. **AA** Harvard University and National Bureau of Economic Research. **SR** National Bureau of Economic Research Technical Paper: 151; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge MA 02138. **PG** not available. **PR** \$5.00. **JE** C13, C31, C32, C51. **KW** Instrumental Variables. Asymptotic Properties. Maximum Likelihood.

**AB** This paper develops asymptotic distribution theory for instrumental variable regression when the partial correlation between the instruments and a single included endogenous variable is weak, here modeled as local to zero. Asymptotic representations are provided for various instrumental variable statistics, including the two-stage least squares (TSLS) and limited information maximum likelihood (LIML) estimators and their t-statistics. The asymptotic distributions are found to

provide good approximations to sampling distributions with just 20 observations per instrument. Even in large samples, TSLS can be badly biased, but LIML is, in many cases, approximately median unbiased. The theory suggests concrete quantitative guidelines for applied work. These guidelines help to interpret Angrist and Krueger's (1991) estimates of the returns to education: whereas TSLS estimates with many instruments approach the OLS estimate of 6%, the more reliable LIML and TSLS estimates with fewer instruments fall between 8% and 10%, with a typical confidence interval of (6%, 14%).

#### Stark, Tom

TI Evaluating McCallum's Rule for Monetary Policy.  
AU Croushore, Dean; Stark, Tom.

#### Starrett, David

TI International Emission Permits: Equity and Efficiency.  
AU Chichilnisky, Graciela; Heal, Geoffrey; Starrett, David.

#### Startz, Richard

TI Maximum-Likelihood Estimation of Fractional Cointegration With An Application to the Short End of the Yield Curve. AU Dueker, Michael J.; Startz, Richard.

#### Stavins, Robert N.

PD June 1994. TI Transaction Costs and Tradable Permits. AA Harvard University and Resources for the Future. SR Harvard John F. Kennedy School of Government Faculty Research Working Paper Series: R94-14; John F. Kennedy School of Government, Harvard University, 79 John F. Kennedy Street, Cambridge, MA 02138. PG 14. PR no charge. JE Q28. KW Environmental Policy. Pollution. Tradable Permits.

AB Tradable-permit systems are at the center of current interest and activity in market-based reforms of environmental policy, because these systems can offer significant advantages over conventional approaches to pollution control. Unfortunately, claims made for their relative cost-effectiveness have often been exaggerated. Transaction costs, which may be significant in these markets, reduce trading levels and increase abatement costs. In some cases, equilibrium permit allocations, and hence aggregate control costs, are sensitive to initial permit distributions, providing an efficiency justification for politicians' typical focus on initial allocations.

TI Environmental Regulation and Technology Diffusion: The Effects of Alternative Policy Instruments. AU Jaffe, Adam B.; Stavins, Robert N.

PD June 1994. TI Environmental Regulation and the Competitiveness of U.S. Manufacturing: What Does the Evidence Tell Us? AA Resources for the Future and Harvard University. SR Harvard John F. Kennedy School of Government Faculty Research Working Paper Series: R94-21; John F. Kennedy School of Government, Harvard University, 79 John F. Kennedy Street, Cambridge, MA 02138. PG 27. PR no charge. JE L51, Q28, F13. KW Environmental Regulation. International Competition. Productivity Growth.

AB There is a heated debate among policy makers about the relationship between domestic environmental regulation and international competitiveness. The conventional wisdom among economists is that environmental regulations impose significant costs, slow productivity growth, and thereby hinder

the ability of U.S. firms to compete in international markets. Under a more recent, revisionist view, environmental regulations are seen as being not only benign in their impacts on international competitiveness, but actually a net positive force driving private firms and the economy as a whole to become more efficient and competitive in international markets. We assess the evidence and find that there is little to document the view that environmental regulations have had a measurably adverse effect on competitiveness. Although the long-run social costs of environmental regulation may be significant, including adverse effects on productivity, studies attempting to measure the effect of environmental regulation on net exports, overall trade flows, and plant-location decisions have produced estimates that are small, statistically insignificant, or not robust to tests of model specification. There is also little or no evidence supporting the revisionist hypothesis that environmental regulation stimulates innovation and improved international competitiveness.

#### Steigerwald, Douglas G.

PD November 1994. TI Conditional Heteroscedasticity Modeling in Macroeconomics and Finance. AA University of California, Santa Barbara. SR University of California, Santa Barbara Working Papers in Economics: 17-94; Working Paper Coordinator, Department of Economics, University of California, Santa Barbara, CA 93106. PG 5. PR no charge. JE C22, C51, G12. KW GARCH. Semiparametric. Specification Test.

AB Frank Diebold and Jose Lopez have written an excellent primer on conditional heteroskedasticity (CH) models and their use in applied work. A principle motivation for CH models, as outlined in Diebold and Lopez, is their ability to parsimoniously capture the observed characteristics of many financial time series. By far the most widely used CH model, in part because of the fact that estimators for the model are simple to construct, is the generalized autoregressive conditional heteroskedasticity (GARCH) specification of order (1,1) with normal innovations (henceforth termed the normal GARCH(1,1) model). Despite its widespread use, the normal GARCH(1,1) model does not account for important features in many financial time series. For example, assuming that the GARCH innovations have a normal density generates far fewer outliers than are typically observed in asset prices, while assuming that the order of the GARCH model is (1,1) fails to account for the variety of dynamic patterns observed in the conditional heteroskedasticity of asset prices. As Diebold and Lopez note in describing avenues for future research, it is important to consider alternative CH models that do account for such features of asset prices. Two alternatives to a normal GARCH(1,1) model, which are mentioned by Diebold and Lopez and for which estimators are also simple to construct, are: (1) to allow for non-normal innovations that have a thicker tailed density, thereby accounting for a larger number of outliers; and (2) to allow for order other than (1,1) by developing powerful test statistics for selection of order in GARCH models, thereby accounting for a wider variety of dynamic patterns. I discuss each of these alternatives in turn, in an effort to bring them within the set of commonly used methods for estimation and testing of CH models.

TI Testing for Absolute Purchasing Power Parity. AU Crownover, Collin; Pippenger, John; Steigerwald, Douglas G.



**Stern, Scott**

TI The Allocation of Decisions in Organizations.  
 AU Athey, Susan; Gans, Joshua; Schaefer, Scott; Stern, Scott.

**Stevens, Guy V. G.**

PD August 1994. TI On Risk, Rational Expectations, and Efficient Asset Markets. AU Stevens, Guy V. G.; Akbarian, Dara. AA Board of Governors of the Federal Reserve System. SR Board of Governors of the Federal Reserve System International Finance Discussion Paper: 478; Board of Governors of the Federal Reserve System, Division of International Finance, Washington, DC 20551. PG 45. PR no charge. JE G14, D81, D82. KW Risk. Rational Expectations. Information. Efficient Markets.

AB The notion of asset market efficiency--that market prices "fully reflect" all available information--requires the operation of mechanisms that rapidly incorporate new information into asset prices. Particularly problematic--both theoretically and empirically--has been the case where new information is not widely shared, so-called "strong-form" efficiency. This paper examines the relevance of a mechanism for attaining strong-form efficiency based on knowledgeable investors being willing to take large positions in order to eliminate unexploited profit opportunities. We examine theoretically and empirically, the latter using daily stock market data, the impact of a number of factors on the efficacy of this mechanism: the portfolio size and degree of risk aversion of potential investors, the ability to borrow, and the hedging opportunities provided by the stock market.

**Stock, James H.**

TI Instrumental Variables Regression With Weak Instruments. AU Staiger, Douglas; Stock, James H.

**Stole, Lars A.**

PD August 1994. TI Intrafirm Bargaining Under Nonbinding Contracts. AU Stole, Lars A.; Zwiebel, Jeffrey. AA Stole: University of Chicago. Zwiebel: Stanford University. SR Stanford Graduate School of Business Research Paper: 1324; Jackson Library Graduate School of Business, Stanford University, Stanford, CA 94305-5016. PG 34. PR no charge. JE D23, J41, G31, L22. KW Intrafirm Bargaining. Hold-Up Problem. Technology Choice. Organizational Design.

AB We present a new methodology for studying the problem of intrafirm bargaining, based on the notion that contracts cannot commit the firm and its agents to wages and employment. In particular, we analyze a general bargaining game between the firm and its employees and look for an outcome which is immune to renegotiations by any party. We demonstrate that the resulting wages and profits under a large class of complete information bargaining games distort the input and organizational decisions facing the owner of the firm's capital. Furthermore, these distortions from the standard neoclassical paradigm have a form which is both intuitively appealing and economically significant.

PD August 1994. TI Organizational Design and Technology Choice Under Intrafirm Bargaining. AU Stole, Lars A.; Zwiebel, Jeffrey. AA Stole: University of Chicago. Zwiebel: Stanford University. SR Stanford Graduate School of Business Research Paper: 1325; Jackson Library Graduate School of Business, Stanford University, Stanford, CA 94305-

5016. PG 36. PR no charge. JE D23, C78, J53. KW Intrafirm Bargaining. Labor-Management Relations.

AB We consider a wide number of applications of an intrafirm bargaining game within organizations where employees and the owner of a firm's assets engage in wage negotiations. Under our presumption that contracts cannot serve to bind employees to the organization, the resulting stable wage and profit profiles give rise to an objective function for the firm that places weight on intramarginal profits in an economically significant manner. We in turn employ this methodology to explore applications of organizational design, hiring and capital decisions, training and cross-training, the importance of labor and asset specificity, managerial hierarchies, the firm's preference for unionization, responses to competition, and internal capital budgeting.

**Streufert, Peter A.**

TI Dynamic Programming for Non-Additive Stochastic Objectives. AU Ozaki, Hiroyuki; Streufert, Peter A.

**Sturzenegger, Federico**

TI Financial Markets and Inflation Under Imperfect Information. AU De Gregorio, Jose; Sturzenegger, Federico.

**Subrahmanyam, K.**

TI On the Membership Problem Over Polymatroid Intersection. AU Patkar, Sachin; Subrahmanyam, K.; Narayanan, H.

TI Abstract and Generic Rigidity in the Plane. AU Patkar, Sachin; Servatius, Brigitte; Subrahmanyam, K.

**Sueyoshi, Glenn T.**

TI A Two-Stage Estimator for Probit Models With Structural Group Effects. AU Borjas, George J.; Sueyoshi, Glenn T.

**Sundakov, Alexander**

PD August 1994. TI Measuring the Progress of Economic Reform in the Countries of the Former Soviet Union. AA International Monetary Fund. SR International Monetary Fund Papers on Policy Analysis and Assessment: PPAA/94/16; International Monetary Fund, Washington, DC 20431. PG 24. PR not available. JE E52, O23, E64. KW Monetary Policy. Economic Reform. Price System.

AB Improvements in the medium-term potential of economies in transition may for a number of years be obscured by poor macroeconomic performance. This paper considers how the underlying systemic progress can be measured independently of the behavior of aggregate variables. The key features of the market economy are the central role of the price system in the allocation of resources, de-centralized price formation, and the role of present and potential competition in imposing discipline on market participants. Hence, we examine three types of indicators for monitoring transition. "Framework" indicators record the development of market institutions. "Performance" indicators track the extent to which prices indeed reflect relative scarcities in the economy. "Structural" indicators measure adjustment and competition in various sectors of the economy.

**Sundaresan, Suresh**

TI Design and Valuation of Debt Contracts.

AU Anderson, Ronald W.; Sundaresan, Suresh.

### Szroeter, Jersey

PD December 1993. TI An Analytic Lower Bound on the True Finite-Sample Size of the J-Test of Non-Nested Regression Models. AA University College London. SR University College London Discussion Paper: 93-18; Department of Economics, University College London, Gower Street, London WC1E 6BT, ENGLAND. PG not available. PR 3.00 pounds; checks payable to Department of Economics, University College London. JE C12, C51, C52. KW Hypothesis Testing. Size. Asymptotic Properties.

AB This paper obtains an explicit analytical lower bound on the true finite-sample size of the well-known and intuitively-appealing J-test of non-nested regression models. The bound enables a theoretical understanding of circumstances under which finite-sample size will greatly exceed nominal asymptotic size. The bound may be computed in practice prior to the application of the J-test to check on the minimal extent of upward size bias and the corresponding minimal adjustment needed to the critical value of the J-statistic. Illustrative computations are presented in the paper.

PD September 1994. TI Some Results on Small-Sample Rejection Probabilities of the Davidson-Mackinnon Test for Separate Linear Models. AA University College London. SR University College London Discussion Paper: 94-08; Department of Economics, University College London, Gower Street, London WC1E 6BT, ENGLAND. PG 28. PR 3.00 pounds; checks payable to Department of Economics, University College London. JE C12, C52. KW Linear Models. Bounds. Hypothesis Testing. Size.

AB This paper derives explicit analytic upper and lower bounds on the true finite-sample size of the well-known and intuitively-appealing J-test of non-nested regression models. The lower bound enables a theoretical understanding of circumstances under which finite-sample size will greatly exceed nominal asymptotic size. The upper bound implies a sufficient condition under which finite-sample size will not exceed nominal size by more than an arbitrarily small amount. Both bounds are computationally feasible. Illustrative numerical results are presented in the paper.

### Taber, Christopher R.

TI Econometric Mixture Models and More General Models for Unobservables in Duration Analysis. AU Heckman, James J.; Taber, Christopher R.

### Tanzi, Vito

PD August 1994. TI Corruption, Governmental Activities, and Markets. AA International Monetary Fund. SR International Monetary Fund Working Paper: WP/94/99; International Monetary Fund, 700 19th Street, Washington, DC 20431. PG 18. PR not available. JE H11, H31, H32, K42. KW Corruption. Public Policy.

AB This paper discusses the factors that contribute to the spread of corruption as well as the implications of corruption for markets and for public sector activities. It is argued that corruption can be contained mainly by a scaling down of the public sector activities that stimulate its growth.

### Terrier, Gilbert

TI Economic Trends in Africa: The Economic Performance

of Sub-Saharan African Countries. AU Dhonte, Pierre; Ballali, Daudi; Terrier, Gilbert; Cosse, Stephane.

### Thalmann, Philippe

PD July 1994. TI Assessing the International Spillover Effects of Capital Income Taxation. AU Thalmann, Philippe; Goulder, Lawrence H.; Delorme, Francois. AA Thalmann: University of Geneva and Universite de Lausanne. Goulder: Stanford University and National Bureau of Economic Research. Delorme: Fiscal Policy and Economic Analysis Branch and OECD. SR Universite de Lausanne Cahiers de Recherches Economiques: 9411; Departement d'Econometrie et d'Economie Politique, Univerite de Lausanne, BFSH1 - Dornigny, CH-1015 Lausanne, SWITZERLAND. PG 27. PR no charge. JE E62, F21, F41, H02, H87. KW International Taxation. Applied General Equilibrium.

AB This paper investigates how changes in capital taxes initiated by a given (foreign) economy produce "spillover" impacts on another (U.S.) economy in the presence of internationally mobile capital. We evaluate these impacts numerically using a two-region, intertemporal general equilibrium model. We find that the foreign economy's unilateral reduction in a source-based tax such as the corporate income tax creates positive but small spillover benefits in terms of higher U.S. welfare and an enlarged U.S. tax base. In contrast, a unilateral reduction of a residence-based tax such as the personal income tax imposes large negative spillovers. The very different spillover effects are related to the fact that the CIT is primarily a source-based tax, while the PIT is mainly residence-based. The significant spillovers from the PIT cut stem from general equilibrium effects that are neglected in simpler models. These results indicate that increased international coordination of capital income tax policies may be desirable, particularly as regards personal income taxation.

PD September 1994. TI Quelques Regles Pour Concevoir de "Bonnes" Taxes Ecologiques, Suivies d'une Evaluation du projet Suisse de Taxe 002. AA Universite de Lausanne. SR Universite de Lausanne Cahiers de Recherches Economiques: 9413; Departement d'Econometrie et d'Economie Politique, Univerite de Lausanne, BFSH1 - Dornigny, CH-1015 Lausanne, SWITZERLAND. PG 54. PR no charge. JE H21, H23, Q02. KW Ecological Tax Reform. Carbon Tax. Optimal Taxation.

AB Ecological taxes will play a growing role in governmental toolboxes. This text shows that they can do better than internalize externalities and generate revenues. For each of the governments' major tasks, rules are described that would allow ecological taxes to contribute or at least not to be of hindrance. Political and legal dimensions are also briefly illuminated. In the second part, the criteria developed in the first are used to assess the project for a Swiss carbon tax that was presented earlier this year. It is shown, in particular, that the incentive qualities of the tax are strongly diluted by the special regime that applies to major consumers. Some amendments are proposed, which might increase the efficiency and the political chances of the project.

### Thomas, Alun

TI Relative Prices and Economic Adjustment in the U.S. and the EU: A Real Story About European Monetary Union. AU Bayoumi, Tamim; Thomas, Alun.

**Tobin, James**

PD June 1994. TI Health Care Reform as Seen by a General Economist. AA Yale University. SR Yale Cowles Foundation Discussion Paper: 1073; Yale University, Cowles Foundation for Research in Economics, 30 Hillhouse Ave., Box 2125 Yale Station, New Haven, CT 06520. PG 16. PR no charge. JE I11, I18. KW Health Care. Adverse Selection. Universal Coverage. Community Rating.

AB Universal coverage, it is argued, implies universally required insurance, to avoid adverse selection into last-resort care implicitly guaranteed. It also entails community rating, such that insurers cannot choose among risks. Individual mandate makes more sense than employer mandate. A system is proposed in which individuals can choose among a government Medicare-like plan and private insurance offering equivalent services. Means-tested assistance would help individuals pay premiums.

TI Two Cases for Sand in the Wheels of International Finance. AU Eichengreen, Barry; Tobin, James; Wyplosz, Charles.

**Tokarick, Stephen**

PD August 1994. TI External Shocks, The Real Exchange Rate, and Tax Policy. AA International Monetary Fund. SR International Monetary Fund Working Paper: WP/94/88; International Monetary Fund, 700 19th Street, Washington, DC 20431. PG 24. PR not available. JE C68, F13, F31. KW Foreign Exchange. General Equilibrium. Tax Policy.

AB This paper uses a computable general equilibrium model of the economy of Trinidad and Tobago to assess the effects of trade liberalization and terms-of-trade shocks on the real exchange rate and the overall fiscal position of the government. The model is also used to evaluate the implications of alternative tax policies designed to offset the increase in the budget deficit of the central government that results from both types of external sector shocks.

**Toman, Michael A.**

PD October 1993. TI Economic Theory and "Sustainability". AU Toman, Michael A.; Pezzey, John; Krantkraemer, Jeffrey. AA Toman: Resources for the Future. Pezzey: University College London. Krantkraemer: Washington State University. SR University College London Discussion Paper: 93-15; Department of Economics, University College London, Gower Street, London WC1E 6BT, ENGLAND. PG 31. PR 3.00 pounds; checks payable to Department of Economics, University College London. JE D63, D91, D92, Q28, Q32. KW Sustainability. Intergenerational Equity. Natural Resources. Environmental Degradation.

AB The issue of "sustainability" figures prominently in contemporary discussions of natural resource and environmental management and economic development. However, the concept is not easily defined and is interpreted differently by economists, ecologists, philosophers, and others. Even among economists there are significant differences of interpretation. Some treat sustainability as not much more than another way of espousing economic efficiency in the management of services derived from the natural environment. Others claim that conventional economic efficiency criteria are inadequate for addressing sustainability concerns. Our aims in this paper are to identify the issues that seem to be most salient

in formal economic analysis of sustainability, and to review economic theory that bears on these issues. In the latter effort we focus mostly on literature within the methodological mainstream of neoclassical economics, though the studies do not always maintain all the common assumptions of neoclassical theory. We first draw together arguments from economics, ecology, and philosophy to briefly describe what seem to be the most important issues in addressing sustainability. Armed with this characterization, we then review several categories of studies related to economic advance, natural resource use, and environmental preservation over time. We include both representative-agent models and overlapping-generations models in the review. The concluding section of the paper summarizes our discussion and offers an overall assessment of the literature.

**Tschoegl, Adrian E.**

TI The Price of Rarity. AU Koford, Kenneth; Tschoegl, Adrian E.

**Tsomocos, D. P.**

TI Options Values and Endogenous Uncertainty in ESOPs, MBOs and Asset-Backed Loans. AU Chichilnisky, Graciela; Heal, Geoffrey; Tsomocos, D. P.

**Van**

TI Interactions Between Operational Research and Environmental Management. AU Bloemhof-Ruwaard, Jacqueline M.; van Beek, Paul; Hordijk, Leen; Van Wassenhove, Luk N.

**van Beek, Paul**

TI Interactions Between Operational Research and Environmental Management. AU Bloemhof-Ruwaard, Jacqueline M.; van Beek, Paul; Hordijk, Leen; Van Wassenhove, Luk N.

**Van der Heeden, Koenraad**

PD September 1994. TI The Pay-As-You-Earn Tax on Wages--Options for Developing Countries and Countries in Transition. AA International Monetary Fund. SR International Monetary Fund Working Paper: WP/94/105; International Monetary Fund, 700 19th Street, Washington, DC 20431. PG 21. PR not available. JE H21, H24. KW Income Tax. Developing Countries. Taxation.

AB The paper presents a comparative study of systems for withholding income tax on wages and identifies those that can be used in developing countries and countries in transition. The withholding system should be simple and reduce the need for return filing as much as possible. Collection of social security contributions should be combined with the withholding tax on income and assigned to the tax administration. The appendix presents summaries of the wage withholding systems in three developed countries, four developing countries, and two countries in transition.

**Van Wassenhove, L. N.**

TI Local Search Heuristics for Single Machine Scheduling With Batching to Minimize the Number of Late Jobs. AU Crauwels, H. A. J.; Potts, C. N.; Van Wassenhove, L. N.

TI Discrete Lotsizing and Scheduling With Sequence

Dependent Setup Times and Setup Costs. AU Salomon, Marc; Solomon, Marius M.; Van Wassenhove, L. N.; Dumas, Yvan; Dauzere-Peres, Stephane.

TI Local Search Heuristics for Single Machine Tardiness Sequencing. AU Crauwels, H. A. J.; Potts, C. N.; Van Wassenhove, L. N.

TI An Empirical Study of Capital Budgeting Practices for Strategic Investments in C.I.M. Technologies. AU Slagmulder, Regine; Bruggeman, Werner; Van Wassenhove, L. N.

TI An Efficient Budget Allocation Policy for Decentralisation of Responsibility for Site Decontamination Projects. AU Corbett, Charles; Debets, Frank; Van Wassenhove, L. N.

#### van Wincoop, Eric

TI Net Capital Flows Under Exchange Rate and Price Volatility. AU Bacchetta, Philippe; van Wincoop, Eric.

#### Vaughan, Richard

TI Musical Chains: Modeling Noisy Evolution. AU Binmore, Kenneth; Samuelson, Larry; Vaughan, Richard.

#### Vila, Xavier

PD June 1994. TI A Criterion for Evolutionary Stability in Repeated Games Played by Finite Automata. AA Northwestern University. SR Northwestern University Center for Mathematical Studies in Economics and Management Science Discussion Paper: 1093; Northwestern University, 2001 Sheridan Road, 3-014 Leverone Hall, Evanston, IL 60208-2014. PG 32. PR \$3.00 in U.S. and Canada; \$5.00 via international mail; \$2.00 for local Northwestern faculty/students. JE C72. KW Symmetric Games. Evolutionary Stability.

AB In this paper we analyze the evolutionary stability of repeated symmetric games in the context of Abreu and Rubinstein's automaton selection games. We focus on a modification of Probst's (1993) solution concept (ESC) which is a modification of Binmore and Samuelson's (1992) MESS which, in turn, is a modification of the conventional ESS, to adapt it to the automata context with complexity costs. We show that, if any population contains always a small fraction of people playing a short run best response to their environment, then there is only one set of automata that is evolutionary stable in the sense that no automaton from outside the set can successfully enter a population composed mainly of such automata. Furthermore, those automata are efficient in the sense that they maximize the payoff that an automaton can obtain when playing against a replica of itself.

#### Vincent, Daniel

TI Sequentially Optimal Auctions. AU McAfee, R. Preston; Vincent, Daniel.

#### Violi,

TI Recent Fiscal Developments in the European Countries of the G-7. AU O'Callaghan, G.; Habermeier, K.; Green, J.; Henry, S. G. B.; Violi, R.

#### Vishnyakov, A.

TI Closed Form Representations for the Minimal Hedging

Portfolios of American Type Contingent Claims. AU Kramkov, D.; Vishnyakov, A.

#### Voith, Richard

PD October 1994. TI Fares, Service Levels, and Demographics: What Determines Commuter Rail Ridership in the Long Run? AA Federal Reserve Bank of Philadelphia. SR Federal Reserve Bank of Philadelphia Research Working Paper: 94-21; Working Papers, Department of Research, Federal Reserve Bank of Philadelphia, 10 Independence Mall, Philadelphia, PA 19106. PG 22. PR no charge except overseas airmail, \$3.00; checks/money orders in U.S. funds payable to Federal Reserve Bank of Philadelphia. JE D12, J11, R41, R48. KW Transportation. Commuter System. Demographic Changes.

AB Using a panel data set on commuter rail ridership, prices, and service levels for the Southeastern Pennsylvania Transportation Authority (SEPTA) commuter system over a 13-year period, this paper examines the roles of transportation policy and demographic changes in rail ridership. The paper presents a simple model of supply and demand which allows identification of the long-run response of ridership to changes in prices and service independently of exogenous shocks to ridership caused by demographic or other factors. Long-run price and service elasticities are estimated; short-run effects of policy changes are less than half of the total impact. Examination of the residuals from the ridership level and growth equations suggests that differences in ridership level and growth are not generally explained by demographic differences or demographic changes that are unrelated to transportation policy. To the extent that demographic changes are driven by transportation variables, these effects are captured in the estimated long-run elasticities.

#### von Ungern-Sternberg, Thomas

PD June 1994. TI Die kantonalen Gebaeudeversicherungen. Eine oekonomische Analyse. AA Universite de Lausanne. SR Universite de Lausanne Cahiers de Recherches Economiques: 9405; Departement d'Econometrie et d'Economie Politique, Univerite de Lausanne, BFSH1 - Dorigny, CH-1015 Lausanne, SWITZERLAND. PG 37. PR no charge. JE G00, G35. KW Insurance. Public versus Private.

AB This paper compares the performance of private and public housing insurance in different cantons of Switzerland. Public insurances are about 40% less expensive, in spite of the fact that they spend considerably more on fire prevention. Their ability to charge much lower premia essentially stems from the fact that they have considerably lower administrative costs.

PD June 1994. TI Les Assurances Immobilières Cantonales: Une Analyse Economique. AA Universite de Lausanne. SR Universite de Lausanne Cahiers de Recherches Economiques: 9409; Departement d'Econometrie et d'Economie Politique, Univerite de Lausanne, BFSH1 - Dorigny, CH-1015 Lausanne, SWITZERLAND. PG 37. PR no charge. JE G00, G35. KW Insurance. Public versus Private.

AB This paper compares the performance of private and public housing insurance in different cantons of Switzerland. Public insurances are about 40% less expensive, in spite of the fact, that they spend considerably more on fire prevention. Their ability to charge much lower premia essentially stems from the fact, that they have considerably lower administrative

costs.

**PD** August 1994. **TI** Percentage Retail Mark-Ups. **AA** Universite de Lausanne. **SR** Universite de Lausanne Cahiers de Recherches Economiques: 9412; Departement d'Econometrie et d'Economie Politique, Univerite de Lausanne, BFSH1 - Dorigny, CH-1015 Lausanne, SWITZERLAND. **PG** 13. **PR** no charge. **JE** D43, D45, D40. **KW** Double Marginalization. Percentage Mark-Ups.

**AB** Retailers frequently calculate their selling prices by adding a percentage mark-up to their wholesale prices. Such a policy allows a monopoly retailer to obtain profits higher than with a standard linear pricing policy. Less obviously, it turns out, that equilibrium prices and aggregate producer-plus-retailer profits are higher than under linear pricing. If there is competition among retailers, producers may prefer working with retailers using percentage mark-ups. A further positive effect is that risk is spread more evenly between producers and retailers.

### Vygen, Jens

**PD** February 1994. **TI** Disjoint Paths. **AA** University of Bonn. **SR** Universitaet Bonn Sonderforschungsbereich 303 - Discussion Paper: 94816; Sonderforschungsbereich 303 an der Universitaet Bonn, Adenauerallee 24-42, D-5300 Bonn 1, DEUTSCHLAND. **PG** 30. **PR** no charge. **JE** C44. **KW** Disjoint Paths. Graph Theory. Network Flow Theory.

**AB** In this paper on the problem of disjoint paths, we use results of the theory of disjoint paths, but we do not restrict ourselves to results closely related to the routing problem. Some emphasis is placed on complexity and on relations among different classes of problems. We prove two new results: The edge-disjoint problem is NP-complete in the directed and in the undirected grid; the second problem corresponds to routing of two-terminal nets, while the first is a special case of the edge-disjoint shortest paths problem in an undirected grid, showing that clock routing is also NP-hard.

### Wakeman-Linn, John

**TI** Military Expenditure and Arms Trade: Alternative Data Sources. **AU** Happe, Nancy; Wakeman-Linn, John.

### Weber, Axel

**PD** June 1994. **TI** Testing Long-Run Neutrality: Empirical Evidence for G7 Countries With Special Emphasis on Germany. **AA** University of Bonn and Centre for Economic Policy Research. **SR** Universitaet Bonn Sonderforschungsbereich 303 - Discussion Paper: B- 281; Sonderforschungsbereich 303 an der Universitaet Bonn, Adenauerallee 24-42, D-5300 Bonn 1, DEUTSCHLAND. **PG** 40. **PR** no charge. **JE** E31, E43, E52. **KW** Unit Roots. Vector Autoregressions. Long-Run. Neutrality. Superneutrality. Phillips Curve. Fisher Effect. Lucas Critique.

**AB** Modern neo-Keynesian, new classical, and real business cycle models typically differ in the degree to which they incorporate long-run or short-run neutrality propositions. Despite their importance, little firm international evidence on the validity of these neutrality hypotheses is available to date. The paper applies a bivariate VAR approach to test the long-run restrictions implied by a number of neoclassical neutrality propositions. The evidence from the G7-countries appears to be consistent with the long-run neutrality of money and the vertical Phillips-curve, but the data largely refute the long-run

superneutrality of money and the "Fisher-Effect" of inflation on interest rates.

### Weber, Warren

**TI** Inflation, Money, and Output Under Alternative Monetary Standards. **AU** Rolnick, Arthur; Weber, Warren.

### Weher, Guglielmo

**TI** Intertemporal Non-Separability or Borrowing Restrictions? A Disaggregate Analysis Using the U.S. CEX Panel. **AU** Meghir, Costas; Weher, Guglielmo.

### Weil, David N.

**TI** An Asset Allocation Puzzle. **AU** Canner, Niko; Mankiw, N. Gregory; Weil, David N.

### Weiner, Stuart E.

**PD** December 1994. **TI** Structural Change in U.S. Labor Markets: A Narrowing of the Gap Between Male and Female Natural Rates. **AA** Federal Reserve Bank of Kansas City. **SR** Federal Reserve Bank of Kansas City Research Working Paper: 94-13; Research Division, Federal Reserve Bank of Kansas City, 925 Grand Blvd., Kansas City, MO 64198. **PG** 11. **PR** no charge. **JE** J21, J16, J31. **KW** Labor Market. Unemployment. Wage Differential.

**AB** This paper examines the demographic incidence of recent structural change in U.S. labor markets. The paper presents estimated natural unemployment rates for twenty population groups disaggregated by age, sex, and race. The rates are compared within and across groups over various time periods spanning 1961 to 1993. The results indicate that women and nonwhites continue, in general, to have higher natural rates than white men. However, in recent years the natural rates of men, both white and nonwhite, have risen for key groups, while the natural rates of women have held steady or declined. Thus, the results suggest that men have borne the brunt of recent structural change, leading to a narrowing of the gap between male and female natural rates.

### Weiss, Allan N.

**TI** Home Equity Insurance. **AU** Shiller, Robert J.; Weiss, Allan N.

### Weizscker, Robert K. von

**PD** July 1994. **TI** Educational Choice, Lifetime Earnings Inequality, and Conflicts of Public Policy. **AA** University of Halle-Wittenberg. **SR** Universitaet Bonn Sonderforschungsbereich 303 - Discussion Paper: A- 445; Sonderforschungsbereich 303 an der Universitaet Bonn, Adenauerallee 24-42, D-5300 Bonn 1, DEUTSCHLAND. **PG** 20. **PR** no charge. **JE** D31, H31, I21, J18. **KW** Human Capital. Earnings Inequality. Public Education. Distributional Policy Conflicts.

**AB** Drawing on the extending the theory of human capital, a comprehensive life-cycle model of individual earnings is designed. The approach taken permits an isolated analysis of three interconnected levels of aggregation (intra-cohort distribution, overall distribution, and life-time distribution) within the same dynamic microeconomic model of educational choice. In this way, interrelated economic, demographic, and fiscal effects on earnings inequality are established. The paper reveals that reallocation reactions of optimizing individuals, combined with population heterogeneity by productive

endowments, learning abilities, and working age, can destroy simple relationships between the standard of living, current earnings inequality, lifetime earnings inequality, and public distributional policy.

#### Weller, Paul

TI Endogenous Realignments and the Sustainability of a Target Zone. AU Neely, Christopher J.; Corbae, Dean; Weller, Paul.

#### Wessels, Joachim

PD October 1994. TI Implicit Collusion in Hierarchical Relationships. AA University of Bonn. SR Universitaet Bonn Sonderforschungsbereich 303 - Discussion Paper: A-455; Sonderforschungsbereich 303 an der Universitaet Bonn, Adenauerallee 24-42, D-5300 Bonn 1, DEUTSCHLAND. PG 17. PR no charge. JE D23, D82, J33, J53, L14, L22. KW Collusion. Hierarchy. Principal/Agent Theory. Utility Interdependence.

AB We reconsider Tirole's framework of a three-tier principal-agent problem, in which he has shown that an incentive problem is caused by the possibility of monetary side payments between the agent and the middle-level supervisor. We consider the case where monetary transfers are not possible, but a different, implicit kind of collusion arises because the supervisor cares about the utility enjoyed by his subordinate. This approach avoids the crucial problem of how an explicit side contract could be enforced. We show that the difference in the cause of collusion leads to a difference in the way in which collusion is prevented: the agent's incentive scheme is used to give incentives to the supervisor. An interdependence between incentive schemes thus follows from utility interdependence.

#### West, Kenneth D.

PD January 1994. TI The Predictive Ability of Several Models of Exchange Rate Volatility. AU West, Kenneth D.; Cho, Dongchul. AA West: University of Wisconsin and National Bureau of Economic Research. Cho: Texas A&M University. SR National Bureau of Economic Research Technical Paper: 152; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge MA 02138. PG not available. PR \$5.00. JE C53, G11, G15, F31. KW Volatility. GARCH. Foreign Exchange. Forecasting.

AB We compare the out-of-sample forecasting performance of univariate homoskedastic, GARCH, autoregressive and nonparametric models for conditional variances, using five bilateral weekly exchange rates for the dollar, 1973-1989. For a one week horizon, GARCH models tend to make slightly more accurate forecasts. For longer horizons, it is difficult to find grounds for choosing between the various models. None of the models perform well in a conventional test of forecast efficiency.

#### Westphal, Larry E.

TI Technological Change and Technology Strategy. AU Evenson, Robert E.; Westphal, Larry E.

#### Wheatley, Simon M.

TI Time Series Variation in the Interest-Rate Response to Money Announcements: A Re-Examination of the Evidence. AU Roley, V. Vance; Wheatley, Simon M.

#### Whited, Toni M.

PD November 1994. TI Problems With Identifying Adjustment Costs From Regressions of Investment on Q. AA University of Delaware. SR University of Delaware Department of Economics Working Paper: 94-14; College of Business and Economics, Department of Economics, University of Delaware, Newark, Delaware 19716-2720. PG 6. PR not available. JE E22, C21, G31. KW Investment. q-Theory. Intertemporal Optimization. Regression Analysis. AB Most econometricians evaluate investment-q regressions by using the coefficients to estimate adjustment costs. However, these coefficients do not uniquely identify average adjustment costs or speeds, nor do they appear in the expression for marginal adjustment costs in terms of observables.

PD November 1994. TI Why and to What Extent Do Investment Euler Equations Fail? AA University of Delaware. SR University of Delaware Department of Economics Working Paper: 94-15; College of Business and Economics, Department of Economics, University of Delaware, Newark, Delaware 19716-2720. PG 17. PR not available. JE E22, C13, C21, C52. KW Investment. Euler Equations. Specification. Generalized Method of Moments.

AB I identify some sources of misspecification of neoclassical investment Euler equations, without ad hoc alterations of the basic model. I perform standard specification tests and compute a noise ratio that measures the extent of failure. The standard equation with linear marginal adjustment costs fails all specification tests. However, with nonlinear marginal adjustment costs, less than ten percent of the Euler equation forecast error variance can be attributed to noise. I also determine that both real and financial variables contribute to this failure by using a new GMM technique to test the model's over-identifying restrictions separately, rather than as a group.

TI The Effect of Uncertainty on Investment: Some Stylized Facts. AU Leahy, John V.; Whited, Toni M.

#### Wikstrom, Magnus

TI The Influence of a Nonlinear Grant-in-Aid on Local Public Expenditures in Sweden. AU Aronsson, Thomas; Wikstrom, Magnus.

#### Williams, Steven R.

PD September 1994. TI A Characterization of Efficient, Bayesian Incentive Compatible Mechanisms. AA University of Illinois. SR Northwestern University Center for Mathematical Studies in Economics and Management Science Discussion Paper: 1100; Northwestern University, 2001 Sheridan Road, 3-014 Leverone Hall, Evanston, IL 60208-2014. PG 23. PR \$3.00 in U.S. and Canada; \$5.00 via international mail; \$2.00 for local Northwestern faculty/students. JE C72, D61, D63, D82. KW Groves Mechanism. Efficiency. Incentives.

AB A mechanism that is both efficient and incentive compatible in the Bayesian-Nash sense is shown to be payoff-equivalent to a Groves mechanism at the point in time when each agent has just acquired his private information. This equivalence result simplifies the question of whether or not an efficient, Bayesian incentive compatible mechanism can satisfy other desired objectives, for the search for an appropriate mechanism can be restricted to the family of Groves mechanisms. The method is used to extend a result of Myerson

and Satterthwaite on the inefficiency of bilateral bargaining to a multilateral setting.

#### Wilson, B. Kemp

TI Reinterpreting Excess Sensitivity with Precautionary Savings. AU Hess, Gregory D.; Wilson, B. Kemp.

#### Windemeyer, Frank

TI An R-Squared Measure of Goodness of Fit for Some Common Nonlinear Regression Models. AU Cameron, Colin; Windemeyer, Frank.

#### Winter, Eyal

TI Core Implementation and Increasing Returns to Scale for Cooperation. AU Moldovanu, Benny; Winter, Eyal.

#### Wolf, Thomas A.

PD July 1994. TI Currency Arrangements in Countries of the Former Ruble Area and Conditions for Sound Monetary Policy. AA International Monetary Fund. SR International Monetary Fund Papers on Policy Analysis and Assessment: PPAA/94/15; International Monetary Fund, Washington, DC 20431. PG 18. PR not available. JE E58, F33, F36. KW Monetary Union. Central Banks. International Finance.

AB This paper explores the general economic considerations that have guided thinking with respect to monetary union among the countries of the former ruble area. In light of these considerations, the paper discusses the dissolution of the ruble area in the course of 1992-93. This experience suggests that if national authorities are going to seek financial stability through membership in a monetary union, the common currency area must be credible in the sense of being economically sustainable and institutionally workable, and the authorities in the country with de facto monetary authority will need to have sufficient political support to pursue an effective anti-inflationary policy.

#### Wolinsky, Asher

PD July 1994. TI Competition in Markets for Credence Goods. AA Northwestern University. SR Northwestern University Center for Mathematical Studies in Economics and Management Science Discussion Paper: 1099; Northwestern University, 2001 Sheridan Road, 3-014 Leverone Hall, Evanston, IL 60208-2014. PG 21. PR \$3.00 in U.S. and Canada; \$5.00 via international mail; \$2.00 for local Northwestern faculty/students. JE D82, D83, L13. KW Credence Goods. Asymmetric Information. Competition. AB This paper investigates the functioning of markets for credence goods. These are markets in which the information asymmetries are of the form that sellers are also experts who determine customers' needs. It examines the role of customers' search for multiple opinions in disciplining experts. It characterizes the equilibrium amount of fraud in such markets and shows that, despite intense competition, the information asymmetry will be translated into a mark-up over cost embodied in the prices of the less expensive services. It points out that the equilibrium does not maximize the expected customers' surplus, even subject to the informational constraints regarding the experts' superior information.

TI A Strategic Model of Social and Economic Networks. AU Jackson, Matthew O.; Wolinsky, Asher.

#### Wolpin, Kenneth

TI The Solution and Estimation of Discrete Choice Dynamic Programming Models by Simulation and Interpolation: Monte Carlo Evidence. AU Keane, Michael; Wolpin, Kenneth.

#### Woodland, Stephen

TI Are Workers Paid Their Marginal Product? Evidence From a Low Wage Labor Market. AU Machin, Stephen; Manning, Alan; Woodland, Stephen.

#### Wooldridge, Jeffrey M.

TI Econometric Methods for Fractional Response Variables With an Application to 401(k) Plan Participation Rates. AU Papke, Leslie E.; Wooldridge, Jeffrey M.

#### Wright, Randall

TI Two-Sided Search. AU Burdett, Kenneth; Wright, Randall.

TI Dynamic Bargaining Theory. AU Coles, Melvyn; Wright, Randall.

#### Wyplosz, Charles

TI Two Cases for Sand in the Wheels of International Finance. AU Eichengreen, Barry; Tobin, James; Wyplosz, Charles.

TI French Postwar Growth: From (Indicative) Planning to (Administered) Market. AU Sicsic, Pierre; Wyplosz, Charles.

PD July 1994. TI Demand and Structural Views of Europe's High Unemployment Trap. AA INSEAD, EHESS and Centre for Economic Policy Research. SR INSEAD Working Papers: 94/57/EPS; INSEAD, Boulevard de Constance, Fontainebleau, 77305 Cedex, FRANCE. PG 33. PR not available. JE E24, E61, J23, J38. KW Employment. Europe.

AB The paper looks at three questions. First, how much of European experience with high unemployment can be explained by the distinction between demand and structural causes? The answer is that there is much to be learned by this distinction but that it does not explain everything. So, second, what alternative approaches exist? The paper suggests that there exist two useful additional ways of looking at unemployment: hysteresis, the fact that transitory shocks lead to permanent increases in unemployment, and the study of flows between jobs and no-jobs. Third, what does the analysis imply for policy making? The paper suggests that only broad attacks based on an explicit social contract are likely to succeed.

TI Russia's Transition: Muddling-Through. AU Delpla, Jacques; Wyplosz, Charles.

TI Speculative Attacks on Pegged Exchange Rates: An Empirical Exploration With Special Reference to the European Monetary System. AU Eichengreen, Barry; Rose, Andrew K.; Wyplosz, Charles.

TI Is There a Safe Passage to EMU? Evidence on Capital Controls and a Proposal. AU Eichengreen, Barry; Rose, Andrew K.; Wyplosz, Charles.

#### Yafeh, Yishay

PD August 1994. TI Large Share Holders, Banks, and Managerial Moral Hazard: An Empirical Investigation.

AU Yafeh, Yishay; Yosha, Oved. AA Yafeh: Harvard University and University of Jerusalem. Yosha: Brown University and Tel Aviv University. SR Brown University Department of Economics Working Paper: 94-18; Department of Economics, Brown University, Providence, RI 02912. PG 30. PR no charge. JE G21, G32. KW Large Shareholders. Managerial Moral Hazard. Monitoring.

AB We use data on the ownership and debt structure of Japanese manufacturing firms in order to empirically investigate the nature of monitoring by large share and debt holders. Rather than examine the indirect effects of monitoring on profitability, we investigate the direct effects of monitoring on firm behavior. We find that both share holders and banks holding large amounts of debt monitor firms through a significant reduction of activities with scope for managerial moral hazard. Monitoring of this type takes place even when the monitored firm is not in financial distress.

#### Yao, Shun

TI Insurance Market Games: Scale Effects and Public Policy. AU Powers, Michael R.; Shubik, Martin; Yao, Shun.

#### Ying, John S.

PD June 1994. TI Viable Competition in Local Telephone: Superadditive Costs in the Post-Divestiture Period. AU Ying, John S.; Shin, Richard T. AA Ying: University of Delaware. Shin: Federal Trade Commission. SR University of Delaware Department of Economics Working Paper: 94-8; College of Business and Economics, Department of Economics, University of Delaware, Newark, Delaware 19716-2720. PG 22. PR not available. JE L96, L51, L12. KW Telecommunications. Natural Monopoly. Regulation. Barriers to Entry.

AB The assault of competition on local exchange carriers (LEC's) is becoming a very real possibility as long distance companies, competitive access providers, cable television operators, and cellular and other wireless companies all seek to enter the local telephone market. Using recent 1984-91 data, we find that LEC's are not natural monopolies in the post-divestiture era. Having two firms produce the monopoly output could potentially result in over 20 percent cost savings. Exposing an incumbent LEC to competitors could also lower costs by more than 20 percent, suggesting that permitting entry is a viable policy for state regulators to pursue.

TI Hospital Costs and Excess Bed Capacity: A Statistical Analysis. AU Keeler, Theodore E.; Ying, John S.

#### Yosha, Oved

TI Large Share Holders, Banks, and Managerial Moral Hazard: An Empirical Investigation. AU Yafeh, Yishay; Yosha, Oved.

#### Yuecesan, Enver

PD 1994. TI Intractable Structural Issues in Discrete Event Simulation: Special Cases and Heuristic Approaches. AU Yuecesan, Enver; Jacobson, Sheldon H. AA Yuecesan: INSEAD. Jacobson: Virginia Polytechnic and State University. SR INSEAD Working Papers: 94/38/TM; INSEAD, Boulevard de Constance, Fontainebleau, 77305 Cedex, FRANCE. PG 27. PR not available. JE C63. KW Complexity, Computation.

AB Several simulation model building and analysis issues

have been studied using a computational complexity approach. More specifically, four problems related to simulation model building and analysis (accessibility of state, ordering of events, interchangeability of model implementations, and execution stalling) have been shown to be NP-hard search problems. These results imply that it is unlikely that a polynomial-time algorithm can be devised to verify structural properties of discrete event simulation models, unless  $P = NP$ . Heuristic procedures should therefore be useful to practitioners. This paper identifies limited special cases of one of these problems which are polynomially solvable and NP-hard, and discusses the implications with respect to the other three problems. A number of heuristic procedures are then proposed. In particular, four algorithms are presented to address ACCESSIBILITY. Experimentation with test problems suggests that local optimization approaches such as simple descent and simulated annealing represent promising approaches for addressing this structural problem.

#### Zamalloa, Lorena M.

TI Use of Central Bank Credit Auctions in Economies in Transition. AU Saal, Matthew I.; Zamalloa, Lorena M.

#### Zapater, Inigo

TI The Three-Legged Race: Cooperating to Compete. AU Serrano, Roberto; Zapater, Inigo.

#### Zeckhauser, Richard

TI Changing Fortunes, Hospitals Behaviors, and Ownership Forms. AU Patel, Jayendu; Needleman, Jack; Zeckhauser, Richard.

#### Zemsky, Peter B.

TI Mentoring, Discrimination and Diversity in Organizations. AU Athey, Susan; Avery, Christopher; Zemsky, Peter B.

#### Zweibel, Jeffrey

TI Organizational Design and Technology Choice Under Intrafirm Bargaining. AU Stole, Lars A.; Zweibel, Jeffrey.

#### Zwiebel, Jeffrey

TI Intrafirm Bargaining Under Nonbinding Contracts. AU Stole, Lars A.; Zwiebel, Jeffrey.

PD September 1994. TI Block Investment and Partial Benefits of Corporate Control. AA Stanford University. SR Stanford Graduate School of Business Research Paper: 1326; Jackson Library Graduate School of Business, Stanford University, Stanford, CA 94305-5016. PG 27. PR no charge. JE G32, G34. KW Block Shareholders. Voting. Control Benefits.

AB Despite familiar arguments for diversification, many investors choose to hold significant blocks of equity in the same firm. While control benefits may explain majority blocks, most blocks are much smaller than what is generally considered necessary for control. This paper develops a theory whereby such blocks can confer to their holders partial benefits of control; in particular, small block shareholders can join together and form controlling coalitions. The implications of such a cooperative game among block shareholders for the shareholder structure within and across firms are examined. This paper predicts large investors will "create their own space"



by staking out large enough blocks to deter other block investors, that there will be a threshold level above which large investors are not challenged, and that the shareholder structure across firms will exhibit a particular clientele effect among block shareholders. These predictions are consistent with a preliminary review of empirical evidence.