

ABSTRACTS OF WORKING PAPERS IN ECONOMICS

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

Abate, Joseph

PD September 1993. **TI** The Money Output Link: Are F-Tests Reliable? **AU** Abate, Joseph; Boldin, Michael D. **AA** Federal Reserve Bank of New York. **SR** Federal Reserve Bank of New York Research Paper: 9328; Research Department - Room 901, Federal Reserve Bank of New York, 33 Liberty Street, New York, NY 10045. **PG** not available. **PR** no charge. **JE** E44, C52, E32. **KW** Monetary Policy. Granger Causation.

AB This paper explores the reliability of F-tests that measure the money-output link. We start by reassessing specification and sample period sensitivities that have made many economists question the usefulness of this statistical framework. We then carefully reconsider interest rate effects, control for serial correlation and heteroskedasticity problems, and test for breaks in the equations. We show that contrary to the claims of some researchers, the money-output relationship does not break down in the 1980's and M2 helps forecast output into the early 1990's. While our results are robust and suggest that this econometric framework is reliable, we do identify some features that could be corrected to refine the statistical inferences.

Ades, Alberto

PD October 1993. **TI** Regional Instability and Economic Growth: Thy Neighbor's Curse. **AU** Ades, Alberto; Chua, Hak Bin. **AA** Yale University. **SR** Yale Economic Growth Center Discussion Paper: 704; Economic Growth Center, Yale University, Box 208269, Yale Station, New Haven CT 06520. **PG** 38. **PR** \$2.00 + postage. **JE** H23, E23, J11, O11. **KW** Political Instability. Growth. Spillovers. Externality. Development. Spatial Correlation.

AB We show that regional instability, defined as political instability in neighboring countries, has strong negative effects on a country's income per capita growth rate. The magnitude of this negative externality is found to be equivalent to the effect from an identical increase in domestic political instability. We find that there are three main channels in which regional instability hurts growth. First, regional instability disrupts trade flows. The shares of merchandise and manufactured trade are substantially lower in countries with high regional instability. Second, regional instability requires increases in military outlays at the expense of other productive activities. Third, the composition of investment is found to be skewed against the share of equipment investment in countries with high regional instability. To the extent that equipment investment has a higher social rate of return than transport or structure investment, this shift can reduce aggregate returns to capital and hamper growth.

Agenor, Pierre-Richard

PD May 1994. **TI** Macroeconomic Adjustment with Segmented Labor Markets. **AU** Agenor, Pierre-Richard; Aizenman, Joshua. **AA** Agenor: International Monetary Fund. Aizenman: Dartmouth College. **SR** International Monetary Fund Working Paper: WP/94/56; International Monetary Fund, 700 19th Street, Washington, DC 20431. **PG** 25. **PR** not available. **JE** E24, F41, J42. **KW** Fiscal Policy. Labor Market Policy. Small Open Economy.

AB This paper analyzes the macroeconomic effects of fiscal and labor market policies in developing countries. The basic framework considers a small open economy with a large informal production sector and a heterogeneous work force. The labor market is segmented as a result of efficiency considerations and minimum wage laws. The basic model is then extended to account for unemployment benefits, income taxation, and imperfect labor mobility across sectors. The analysis indicates, among other results, that a reduction in unemployment benefits has a positive effect on output of tradable goods by lowering both the level of efficiency wages and the relative rent captured by skilled workers.

Aghion, Philippe

PD March 1994. **TI** Formal and Real Authority in Organizations. **AU** Aghion, Philippe; Tirole, Jean. **AA** Aghion: Nuffield College, Oxford and European Bank for Reconstruction and Development, London. Tirole: Institut d'Economie Industrielle (IDEI), Toulouse. **SR** Massachusetts Institute of Technology Department of Economics Working Paper: 94-13; Department of Economics, Massachusetts Institute of Technology, Cambridge, MA 02139. **PG** 32. **PR** \$8.00 Domestic; \$10.00 Overseas; \$5.00 Student. **JE** D23, D73, L20, M21. **KW** Authority. Integration. Delegation. Information. Rules. Communication.

AB The paper develops a theory of the separation between formal authority (the right to decide) and real authority (the effective control over decisions), and illustrates how a formally integrated structure can accommodate various degrees of "real" integration. Real authority is determined by the structure of information, which in turn depends on the allocation of formal authority. An increase in an agent's real authority promotes initiative but results in a loss of control for the principal. After showing that firm boundaries and information structures are intertwined, the paper examines a number of factors that increase the subordinates' real authority in an integrated structure: overload, lenient rules, urgency of decision, reputation, performance measurement, and multiplicity of superiors. Lastly, the amount of communication in an organization is shown to depend on the allocation of formal

authority.

Ahmad, Ehtisham

PD May 1994. TI Pensions, Price Shocks, and Macroeconomic Stability in Transition Economies: Illustrations From Belarus. AU Ahmad, Ehtisham; Lugaresi, Sergio; Mourmouras, Alex; Schneider, Jean-Luc. AA International Monetary Fund. SR International Monetary Fund Working Paper: WP/94/52; International Monetary Fund, 700 19th Street, Washington, DC 20431. PG 18. PR not available. JE H55, J14, E31, P20. KW Pensions. Inflation. Population Aging. Post-Communism.

AB In many countries of the former Soviet Union, pensioners form a large and vulnerable group of the population, with pensions fixed in nominal terms. Attempts to "protect" this group have included a revaluation of benefits for retirees and the introduction of indexation arrangements based on recent wage and price growth. In this paper, lagged indexation arrangements are shown to have large destabilizing effects that can potentially jeopardize the macroeconomic adjustment effort, particularly as inflation begins to decelerate. Some long-term problems relating to the aging of the population and associated policies are also discussed. Illustrative examples from Belarus are presented.

Aizenman, Joshua

TI Macroeconomic Adjustment with Segmented Labor Markets. AU Agenor, Pierre-Richard; Aizenman, Joshua.

Altman, Edward I.

PD 1994. TI Distress Classification of Korean Firms. AU Altman, Edward I.; Eom, Young Ho; Kim, Dong Won. AA Altman and Eom: New York University. Kim: New York University and Suwon University. SR New York University Salomon Brothers Working Paper: S-94-6; Salomon Brothers Center for the Study of Financial Institutions, Graduate School of Business Administration, New York University, 90 Trinity Place, New York, NY 10006. PG 12. PR not available. JE C51, D21, G21, G32. KW Distressed Firms. Classification. Korea.

AB This study is an attempt to construct and test a distress classification model for Korean companies. Utilizing a sample of 34 distressed firms from the most recent 1990-1993 period and a matched (by industry and year) sample of non-failed firms, we observe the classification accuracy of two models. Both models utilize measures of firm size, asset turnover, solvency, and leverage with one model available for testing only on publicly traded companies and one model is applicable to all public and private entities. We observe excellent classification accuracy based on data from the first two years prior to distress. And, although the accuracy drops off after t-2, the models still provide effective early warnings of distress in many cases. The results of this study are of particular relevance in the current financial market scenario of increased deregulation and greater individual financial institution decision making.

PD February 1994. TI Do Seniority Provisions Protect Bondholders' Investments? AU Altman, Edward I.; Eberhart, Allan C. AA Altman: New York University. Eberhart: New York University and Georgetown University. SR New York University Salomon Brothers Working Paper: S-94-12; Salomon Brothers Center for the Study of Financial Institutions, Graduate School of Business Administration, New

York University, 90 Trinity Place, New York, NY 10006. PG 12. PR not available. JE C31, D21, G14. KW Market Efficiency. Corporate Bonds. Bankruptcy.

AB This study investigates the efficiency of the market for bonds of firms that default and subsequently file for Chapter 11. To the best of our knowledge, our sample of 91 firms with 232 bonds that filed for and emerged from Chapter 11 between 1980 and 1992 is larger and more recent than for any other sample in this area. We conduct two types of tests with this sample. First, we test the efficiency of these bonds as of the default date. Unlike previous studies, we test for efficiency within each priority category. For the statistically most reliable sample, the results are generally supportive of efficiency. Our second and more important test focuses on the efficiency of bond prices at issuance. Because we have, ex post, chosen those bonds that went into bankruptcy, we cannot conduct traditional efficiency tests. Rather we attempt to answer the following question: Do seniority provisions protect bondholders' investments? In other words, do investors receive compensation for the seniority provisions they pay a premium for at issuance? If not, this suggests that, for example, senior bonds are overpriced at issuance. We answer this question by documenting the losses bankrupt firms' bondholders experience over the entire life of the bond. We find that, on average, higher seniority is associated with higher payoffs at emergence, providing evidence (albeit indirect) that the bonds are efficiently priced at issuance.

Aragones, Enriqueta

PD January 1994. TI Strategic Ambiguity in Electoral Competition. AU Aragones, Enriqueta; Neeman, Zvika. AA Northwestern University. SR Northwestern University Center for Mathematical Studies in Economics and Management Science Discussion Paper: 1083; Northwestern University, 2001 Sheridan Road, 3-014 Leverone Hall, Evanston, IL 60208-2014. PG 18. PR \$3.00 in U.S. and Canada; \$5.00 via international mail. JE C71, C72, D81, D72. KW Elections. Political Candidates. Game Theory.

AB Many have observed that political candidates running for election are often purposefully expressing themselves in vague and ambiguous terms. Moreover, the candidates' ambiguity typically involves precisely those issues which stand in the center of public debate. In this paper, we provide a simple formal model of this phenomenon. We assume that candidates prefer to be ambiguous, at least as long as it does not impair their chances to be elected. One reason for their preference for ambiguity is that the more ambiguous a candidate is, the less he is committed to specific policies when in office, and the more freedom he has when confronting unforeseen contingencies. We model the electoral competition between two candidates as a two-stage game. In the first stage of the game, the candidates simultaneously choose their ideologies, and in the second stage of the game, they simultaneously choose their level of ambiguity. Our results show that an equilibrium always exists, and the two candidates always choose the same level of strategic ambiguity. We find that for certain ranges of parameter values, both candidates will express themselves in ambiguous terms. More interestingly, the candidates may find it advantageous to differentiate themselves ideologically. Thus, we show the existence of an equilibrium where one candidate chooses, say, a "leftist" ideology, the other candidate chooses a "centrist" ideology and both candidates remain vague regarding their future policies in case they win the election.

Araujo, A.

PD January 1994. TI Existence of Equilibria With Infinitely Many Goods, Incomplete Markets and Bankruptcy. AU Araujo, A.; Monteiro, P.; Pascoa, M. AA Araujo and Monteiro: IMPA. Pascoa: University of Lisboa. SR Universitat Bonn Sonderforschungsbereich 303 - Discussion Paper: A-435; Sonderforschungsbereich 303 an der Universitat Bonn, Adenauerallee 24-42, D-5300 Bonn 1, DEUTSCHLAND. PG 12. PR no charge. JE D52, G33. KW Incomplete Markets. Bankruptcy. Existence of Equilibria.

AB The existence of equilibria with infinitely many goods and incomplete markets has been studied by many authors. The continuum of states case was studied by Mas-Colell and Monteiro (1990), Hellwig (1991), Mas-Colell and Zame (1991) and Monteiro (1991). Separable utilities and a lower bound on uncovered asset sales are common assumptions. Our plan in this paper is to eliminate this awkward assumption with the introduction of bankruptcy. The idea of bankruptcy has been considered recently by many authors. Our context is closer to Dubey, Geanakoplos and Shubik (1988), which shows the advantage of the introduction of bankruptcy in many situations. Our model is also close to Araujo-Pascoa (1993) which shows that, with bankruptcy, incomplete markets equilibria might be locally determinate.

Asakawa, K.

TI American and Japanese Expatriate Adjustment: A Psychoanalytic Contribution. AU Schneider, S. C.; Asakawa, K.

Ascari, A.

PD 1994. TI Reengineering and Organizational Change: Lessons From a Comparative Analysis of Case Studies. AU Ascari, A.; Rock, M.; Dutta, Soumitra. AA INSEAD. SR INSEAD Working Papers: 94/28/TM/OB/SM; INSEAD, Boulevard de Constance, Fontainebleau, 77305 Cedex, FRANCE. PG 15. PR not available. JE D21, L21, M11, M21. KW Business Process Reengineering. Competition. Corporate Strategy Reorganization.

AB Business Process Reengineering is fast becoming the terminology of many companies' efforts to reexamine their businesses to improve competitiveness. As such it is also the object of numerous reports and studies which define frameworks and suggest methodologies for organizational change. This report compares and contrasts several companies' efforts in implementing reengineering/change programs. The successful elements of various change programs as well as some of the challenges and "pitfalls" of the companies' efforts are emphasized.

Banerjee, Abihijit

PD September 1993. TI Thy Neighbor's Keeper: The Design of a Credit Cooperative With Theory and a Test. AU Banerjee, Abihijit; Besley, Timothy J.; Guinnane, Timothy. AA Yale University. SR Yale Economic Growth Center Discussion Paper: 705; Economic Growth Center, Yale University, Box 208269, Yale Station, New Haven CT 06520. PG 38. PR \$2.00 + postage. JE D61, N13, O11. KW Credit Cooperative. Resource Allocation. Development.

AB Economists now appreciate that resource allocation in less economically developed economies is profoundly influenced by non-firm economic institutions. However, our

theories of non-firm institutions often suggest different answers to many questions including those of policy. This paper illustrates a method for discriminating between alternative theories using data from German credit cooperatives from the nineteenth and early twentieth century Germany. We build a model of credit cooperatives designed to provide monitoring incentives and test this using nineteenth century data.

Bang-Jensen, Jorgen

PD June 1992. TI Eulerian Trails Through a Set of Terminals in Specific, Unique and All Orders. AU Bang-Jensen, Jorgen; Poljak, Svatopluk. AA Bang-Jensen: Odense University. Poljak: University of Bonn. SR Universitat Bonn Sonderforschungsbereich 303 - Discussion Paper: 92750; Sonderforschungsbereich 303 an der Universitat Bonn, Adenauerallee 24-42, D-5300 Bonn 1, DEUTSCHLAND. PG 10. PR no charge. JE C60. KW Eulerian Digraph. Eulerian Trail.

AB Let G be an eulerian digraph and X be a set of terminals (specified vertices). We consider the question of whether or not G admits an eulerian trail visiting the terminals (i) in a specific (pre-given) order, (ii) in unique order, and (iii) in any required order. The problem (ii) was solved earlier by Ibaraki and Poljak. Here we show that an instance (G, X) which is infeasible for problem (iii) and is minimal with respect to edge contractions must have restricted degrees of vertices. We also formulate some topological obstructions for problem (i), which arise from certain embeddings of G on a surface. The studied problems are closely related with linking problems in digraphs.

PD August 1993. TI Preserving and Increasing Local Edge-Connectivity in Mixed Graphs. AU Bang-Jensen, Jorgen; Frank, Andras; Jackson, Bill. AA Bang-Jensen: Odense University. Frank: Eotvos University, Hungary and University of Bonn. Jackson: Goldsmiths' College, London. SR Universitat Bonn Sonderforschungsbereich 303 - Discussion Paper: 92784; Sonderforschungsbereich 303 an der Universitat Bonn, Adenauerallee 24-42, D-5300 Bonn 1, DEUTSCHLAND. PG 29. PR no charge. JE C44. KW Polynomial Algorithm. Splitting Theorem. Disjoint Arborescences.

AB Generalizing and unifying earlier results of W. Mader and of the second and third authors, we prove two splitting theorems concerning mixed graphs. By invoking these theorems we obtain min-max formulae for the minimum number of new edges to be added to a mixed graph so that the resulting graph satisfies local edge-connectivity prescriptions. An extension of Edmonds' theorem on disjoint arborescences is also deduced along with a new sufficient condition for the solvability of the edge-disjoint paths problem in digraphs. The approach gives rise to strongly polynomial algorithms for the corresponding optimization problems.

Bankole, Edward

PD May 1993. TI Excess Capacity in Insurance: The Evidence From the Literature on Scale Economies. AA Federal Reserve Bank of New York. SR Federal Reserve Bank of New York Research Paper: 9307; Research Department - Room 901, Federal Reserve Bank of New York, 33 Liberty Street, New York, NY 10045. PG not available. PR no charge. JE D21, L13, L84. KW Excess Capacity. Insurance.

AB We reviewed the academic literature on economies of scale in the insurance industry with the objective of finding any

existing studies that might have produced robust results showing excess capacity (or at least operating inefficiencies) in the U.S. insurance industry. We found that the existing literature is largely concerned with the question of excess capacity in life insurance, although a few articles covered this subject for the property and casualty insurance industry.

Bayoumi, Tamim

PD April 1994. TI A Formal Model of Optimum Currency Areas. AA International Monetary Fund. SR International Monetary Fund Working Paper: WP/94/42; International Monetary Fund, 700 19th Street, Washington, DC 20431. PG 16. PR not available. JE F33, F36, D52, E42. KW Currency Areas. General Equilibrium. Differentiation.

AB A model of optimum currency areas is presented using a general equilibrium model with regionally differentiated goods. The choice of a currency union depends upon the size of the underlying disturbances, the correlation between these disturbances, the costs of transactions across currencies, factor mobility across regions, and the interrelationships between demand for different goods. It is found that, while a currency union can raise the welfare of the regions within the union, it unambiguously lowers welfare for those outside the union.

Becker, Gary S.

PD August 1991. TI Habits, Addictions, and Traditions. AA University of Chicago. SR University of Chicago Center for the Study of the Economy and the State Working Paper: 71; Center for the Study of the Economy and the State University of Chicago, 1101 East 58th Street, Chicago, IL 60637. PG 30. PR \$3.00; make check payable to "The University of Chicago.". JE D11, D91. KW Addiction. Preference Formation.

AB The assumption of independence is not "nonsense," for it usefully simplifies many problems that are not crucially affected by dependencies over time. But the assumption has discouraged economists from grappling with other issues of considerable significance--including addictions, work habits, preference formation, why children support their elderly parents, preference solutions to the problem of future commitments, and the evolution and stability of institutions. These are the kinds of questions I address in this lecture.

PD June 1992. TI The Division of Labor, Coordination Costs, and Knowledge. AU Becker, Gary S.; Murphy, Kevin M. AA University of Chicago. SR University of Chicago Center for the Study of the Economy and the State Working Paper: 79; Center for the Study of the Economy and the State University of Chicago, 1101 East 58th Street, Chicago, IL 60637. PG 39. PR \$3.00; make check payable to "The University of Chicago.". JE D23, D24, J24. KW Specialization. Productivity. Coordination Costs.

AB This paper considers specialization and the division of labor. A more extensive division of labor raises productivity because returns to the time spent on tasks are usually greater to workers who concentrate on a narrower range of skills. The traditional discussion of the division of labor emphasizes the limitations to specialization imposed by the extent of the market. We claim that the degree of specialization is more often determined by other considerations. Especially emphasized are various costs of "coordinating" specialized workers who perform complementary tasks, and the amount of general knowledge available.

PD August 1994. TI On the Endogenous Determination of Time Preference. AU Becker, Gary S.; Mulligan, Casey B. AA University of Chicago. SR University of Chicago Center for the Study of the Economy and the State Working Paper: 98; Center for the Study of the Economy and the State University of Chicago, 1101 East 58th Street, Chicago, IL 60637. PG 69. PR \$3.00; make check payable to "The University of Chicago.". JE D91, D11, D12. KW Time Preference. Savings. Preferences.

AB We model a consumer's efforts to overcome an endowed bias against the future, showing how wealth, mortality, addictions, uncertainty and other variables affect one's ultimate degree of time preference. In addition to working out the implications of our model, we provide micro evidence from the PSID. A PSID family's consumption growth is found to be positively correlated with its own income, but even more closely related to its head's parent's income.

Bell, Eric

TI The Arab Maghreb Union. AU Finaish, Mohamed; Bell, Eric.

Benabou, Roland

PD May 1994. TI Education, Income Distribution, and Growth: The Local Connection. AA Massachusetts Institute of Technology, National Bureau of Economic Research and Centre for Economic Policy Research. SR Massachusetts Institute of Technology Department of Economics Working Paper: 94-16; Department of Economics, Massachusetts Institute of Technology, Cambridge, MA 02139. PG 29. PR \$8.00 Domestic; \$10.00 Overseas; \$5.00 Student. JE D31, I22, O40. KW Education. Income Distribution. Growth. Stratification. Human Capital.

AB This paper develops a simple model of human capital accumulation and community formation by heterogeneous families, which provides an integrated framework for analyzing the local determinants of inequality and growth. Five main conclusions emerge. First, minor differences in education technologies, preferences, or wealth can lead to a high degree of stratification. Imperfect capital markets are not necessary, but will compound these other sources. Second, stratification makes inequality in education and income more persistent across generations. Whether the same is true of inequality in total wealth depends on the ability of the rich to appropriate the rents created by their secession. Third, the polarization of urban areas resulting from individual residential decisions can be quite inefficient, both from the point of view of aggregate growth and in the Pareto sense, especially in the long-run. Fourth, when state-wide equalization of school expenditures is insufficient to reduce stratification, it may improve educational achievement in poor communities much less than it lowers it in richer communities; thus average academic performance and income growth both fall. However, it may still be possible for education policy to improve both equity and efficiency. Fifth, because of the cumulative nature of the stratification process, it is likely to be much harder to reverse once it has run its course than to arrest at an early stage.

Berechman, Joseph

PD July 1994. TI Network Structure and Entry, In the Deregulated Airline Industry. AU Berechman, Joseph; Poddar, Sougata; Shy, Oz. AA Berechman and Shy; Tel Aviv University. Poddar: Center for Operations Research and

Econometrics, Belgium. **SR** Tel Aviv Foerder Institute for Economic Research Working Paper: 15/94; Department of Economics, Tel Aviv University, Ramat Aviv 69978, ISRAEL. **PG** 29. **PR** no charge. **JE** L93, L51. **KW** Airline Deregulation. Hub-and-Spoke. Networks. Entry.

AB In this paper we explore how an incumbent airline firm structures its route network under the threat of entry caused by deregulation. We show that entry induces the incumbent firm to strategically alter its flight operating network structure from a fully connected network (FC) to a hub-and-spoke network (HS). While the literature always assumed that the use of a HS network is primarily for the purpose of cost reduction, we show that HS can be used as an entry deterrence/accommodation mechanism even in cases where the HS is more costly to operate. We further analyze the effects of aircraft capacity on the strategic behavior of an airline firm.

Berger, Allen N.

PD July 1994. **TI** The Information Content of Bank Examinations. **AU** Berger, Allen N.; Davies, Sally M. **AA** Berger: Board of Governors of the Federal Reserve System and University of Pennsylvania. Davies: Board of Governors of the Federal Reserve System. **SR** Board of Governors of the Federal Reserve System Finance and Economics Discussion Series: 94-20; Board of Governors of the Federal Reserve System, C/O Sharon Kozicki, Mail Stop 61, Federal Reserve Board, Washington, DC 20551. **PG** 42. **PR** no charge. **JE** G14, G21, D82. **KW** Bank Uniqueness. Bank Examinations. Private Information.

AB Theory suggests that banks hold substantial private information. The main purpose of bank examinations is to acquire some of this information. We use event study methodology to explore whether bank examinations are associated with abnormal stock market returns. We identify three types of information effects from examinations--the net auditing effect of verifying the bank's books, the regulatory discipline effect of changing regulatory treatment, and the private information effect of revealing information about bank condition. The only strong effect found is that examination downgrades appear to reveal unfavorable private information about bank condition.

PD August 1994. **TI** Bank Scale Economies, Mergers, Concentration, and Efficiency: The U.S. Experience. **AU** Berger, Allen N.; Humphrey, David B. **AA** Berger: Board of Governors of the Federal Reserve System and University of Pennsylvania. Humphrey: Florida State University. **SR** Board of Governors of the Federal Reserve System Finance and Economics Discussion Series: 94-23; Board of Governors of the Federal Reserve System, C/O Sharon Kozicki, Mail Stop 61, Federal Reserve Board, Washington, DC 20551. **PG** 34. **PR** no charge. **JE** G21, G28, L40, L89, C33. **KW** Bank. Efficiency. Merger. Scale. Concentration. Antitrust.

AB This paper summarizes research on U.S. bank cost and profit functions, and their policy implications. The purpose is to provide a backdrop for the likely implications of European financial integration. Scale and scope economies in banking are not found to be important, except for the smallest banks. X-efficiency, or managerial ability to control costs, is of much greater magnitude--at least 20% of banking costs. Mergers have no significant predictable effect on efficiency--some mergers raise efficiency and others lower it. Market concentration results in slightly less favorable prices for customers, but has

little effect on profitability.

Bernanke, Ben B.

TI The Financial Accelerator and the Flight to Quality. **AU** Gilchrist, Simon G.; Bernanke, Ben B.; Gertler, Mark.

Bernard, Andrew B.

PD March 1994. **TI** Comparing Apples to Oranges: Productivity Convergence and Measurement Across Industries and Countries. **AU** Bernard, Andrew B.; Jones, Charles I. **AA** Bernard: Massachusetts Institute of Technology. Jones: Stanford University. **SR** Massachusetts Institute of Technology Department of Economics Working Paper: 94-12; Department of Economics, Massachusetts Institute of Technology, Cambridge, MA 02139. **PG** 43. **PR** \$8.00 Domestic; \$10.00 Overseas; \$5.00 Student. **JE** O41, O47. **KW** Multi-Factor Productivity. Aggregate Productivity. Convergence.

AB This paper examines the role of sectors in the convergence of aggregate productivity levels in 14 OECD countries from 1970-1987. The major finding is that manufacturing shows little evidence of either labor productivity or multi-factor productivity convergence while other sectors, especially services, are driving the aggregate convergence result. The paper introduces a new measure of multi-factor productivity which avoids problems inherent to traditional TFP measures when comparing productivity levels. A model of trade, learning-by-doing, and spillovers is developed which can explain convergence in some sectors and divergence in others.

Bertocchi, Graziella

PD June 1994. **TI** Colonialism in the Theory of Growth. **AA** University of Modena and Brown University. **SR** Brown University Department of Economics Working Paper: 94-14; Department of Economics, Brown University, Providence, RI 02912. **PG** 17. **PR** no charge. **JE** E13, O42, Q32, N10. **KW** Colonialism. Growth Theory. Foreign Capital.

AB Surprisingly, within the recent literature on growth and development, very few have considered the economic impact of colonial rule on the countries that were subject to it. In this paper, we fill this gap and we study the impact of colonialism from the vantage point of neoclassical growth theory. We build a dynamic model with capital accumulation which describes the economy of an underdeveloped country before and after colonization takes place. For such a model, we study the dynamics and the steady state configurations and show that the imposition of an economic colonial rule can dramatically alter the growth prospects of the colonized country. Colonialism is defined as an inflow of foreign capital which is restricted by the monopoly power of the metropolis. We first study the trade-off which arises between the "modernization" effect of foreign capital inflows and their "drain of wealth" effect, and show that the increase in the long-run level of total capital due to colonization may not be associated with an increase of national product in the long-run. Next, we introduce more explicit exploitation in the form of economic plundering and enslavement. The inclusion of these elements can only reinforce the negative effects of colonization on growth. Finally, we study the evolution of the same economy when colonization ends and show that it depends on the strength of the factors previously described and on the timing of the process.

Besley, Timothy J.

PD September 1993. **TI** Understanding the Workhouse Test: Information and Poor Relief in Nineteenth-Century England. **AU** Besley, Timothy J.; Coate, Stephen; Guinnane, Timothy. **AA** Yale University. **SR** Yale Economic Growth Center Discussion Paper: 701; Economic Growth Center, Yale University, Box 208269, Yale Station, New Haven CT 06520. **PG** 28. **PR** \$2.00 + postage. **JE** D21, H53, I31, I38, J64. **KW** Poor Relief. Information. Welfare Reform.

AB The Poor Law Reform Act of 1834 sought to change the organization and basis of English poor relief policy. Central to the New Poor Law was the use of the workhouse test to eliminate outdoor relief for the able-bodied. Workhouses were large, centralized institutions for housing and feeding paupers. The workhouse test was a simple administrative device: when an individual applied for poor relief, officials could make relief conditional on entering the workhouse. While the reasons for adoption of the New Poor Law itself have been widely debated, historians have paid little attention to the workhouse test itself. On the face of it the workhouse test seems odd. Authorities could have made relief less attractive in a number of ways; why construct large, new institutions whose cost savings would be realized only in the future, if at all? We show first that the workhouse test played an important informational role, distinguishing between those the Poor Law wanted to support and those it did not. We further argue that the New Poor Law faced great difficulty in convincing the poor that the reforms were real and permanent. Construction of workhouses had two distinct functions: they acted as a signal of toughness, and also credibly committed the relief authorities to a new regime in poor relief.

TI Thy Neighbor's Keeper: The Design of a Credit Cooperative With Theory and a Test. **AU** Banerjee, Abihijit; Besley, Timothy J.; Guinnane, Timothy.

PD July 1994. **TI** Sale Taxes and Prices: An Empirical Analysis. **AU** Besley, Timothy J.; Rosen, Harvey S. **AA** Princeton University. **SR** Princeton Woodrow Wilson School Discussion Paper in Economics: 172; Woodrow Wilson School, Robertson Hall, Princeton University, Princeton, NJ 08544. **PG** 42. **PR** no charge. **JE** H22, H71. **KW** Sales Tax. Tax Incidence. Taxation.

AB One of the most fundamental questions in public finance is who bears the burden of taxes--the "incidence of taxation." It has received a great deal of attention, especially at the theoretical level. However, it seems fair to say that our understanding of incidence from an empirical standpoint is still quite meager. Indeed, there seems to be little evidence even in the case that is theoretically the easiest--partial equilibrium commodity taxes. Are taxes levied on commodities completely shifted into their prices, or does the incidence also fall on firms? How long does the shifting process take? In this paper we employ a unique data source to examine the incidence of sales taxes. The main idea is to take information on the prices of specific commodities in different U.S. cities and to examine the extent to which differences in tax rates and bases are reflected in prices, controlling for other factors (such as costs). We find evidence that some taxes are overshifted--an increase in tax revenue of one dollar per unit increases the price by more than one dollar. This is consistent with the relevant markets being imperfectly competitive.

Bils, Mark

PD July 1992. **TI** Inter-Industry Mobility and the Cyclical Upgrading of Labor. **AU** Bils, Mark; McLaughlin, Kenneth J. **AA** Bils: University of Chicago and National Bureau of Economic Research. McLaughlin: University of Rochester. **SR** University of Chicago Center for the Study of the Economy and the State Working Paper: 81; Center for the Study of the Economy and the State University of Chicago, 1101 East 58th Street, Chicago, IL 60637. **PG** 34. **PR** \$3.00; make check payable to "The University of Chicago.". **JE** C33, E32, J61, J64. **KW** Labor Mobility. Business Cycles.

AB We investigate whether a market-clearing model of the labor market is consistent with the cyclical upgrading of labor; workers tend to move to higher paying industries in expansions and to lower paying industries in contractions. By applying Roy's (1951) model of self-selection to industry fluctuations, we show that cyclical upgrading can be consistent with market clearing. Applying the model to inter-industry mobility patterns in panel data, we find evidence of substantial selection by comparative advantage. However, the panel data reveal a selection process that is inconsistent with cyclical upgrading. Thus the model does not simultaneously account for inter-industry mobility in panel data and cyclical upgrading.

Binmore, Ken

PD February 1994. **TI** Muddling Through: Noisy Equilibrium Selection. **AU** Binmore, Ken; Samuelson, Larry. **AA** Binmore: University College London. Samuelson: University of Wisconsin. **SR** Universitat Bonn Sonderforschungsbereich 303 - Discussion Paper: B-275; Sonderforschungsbereich 303 an der Universitat Bonn, Adenauerallee 24-42, D-5300 Bonn 1, DEUTSCHLAND. **PG** 39. **PR** no charge. **JE** C70. **KW** Game Theory. Risk Dominance. Evolutionary Fitness.

AB We examine an evolutionary model in which the primary source of "noise" that moves the model between equilibria is not random, arbitrarily improbable mutations, but mistakes in learning. We find conditions under which the payoff-dominant equilibrium in a 2 x 2 game is selected by the model as well as conditions under which the risk-dominant equilibrium is selected. The relevant risk-dominance considerations, however, arise not in the original game but in a "fitness game" derived from the process by which payoffs in the original game are translated into evolutionary fitnesses. We also find that waiting times until the limiting distribution is reached can be shorter than in a mutation-driven model. To explore the robustness of the results to the specification of the model, we present a number of comparative static results as well as a "two-tiered" evolutionary model in which the rules by which agents learn to play the game are themselves subject to evolutionary pressure.

Bittlingmayer, George

PD May 1993. **TI** The 1920's Boom and the Great Crash. **AA** University of California, Davis and University of Chicago. **SR** University of Chicago Center for the Study of the Economy and the State Working Paper: 86; Center for the Study of the Economy and the State University of Chicago, 1101 East 58th Street, Chicago, IL 60637. **PG** 58. **PR** \$3.00; make check payable to "The University of Chicago.". **JE** L40, K21, G18, N22. **KW** Stock Market. 1920's. Antitrust.

AB The October 1929 crash and 1930-32 stock decline were

matched by a major shift in antitrust policy and a three-year struggle over antitrust reform that ended in the NRA. Hoover's shift put in jeopardy the mergers and trade association agreements carried out in the 1920's with the approval of the FTC and the Departments of Justice and Commerce. The lax policies of the 1920's explain the boom and merger wave, stepped-up enforcement in late 1929, and the attorney general's Oct. 25, 1929 renunciation of the Coolidge policies explain the crash, and the struggle over antitrust provides a rationale for part of the post-1929 stock decline and increased volatility. For 1919-1930, quarterly stock returns are negatively related to FTC and DOJ merger case filings and positively related to merger activity. For the two weeks of the crash, firms that had made acquisitions in 1928 and 1929 lost 4 percent more in value. Finally, each of 322 New York Times news articles on antitrust for 1929-32 is linked with an average 1 percent decline of the Dow and a decline of normalized Dow returns equal to one-third of the local standard deviation. The results hold for 1929 as well as 1930-32. Each news article is also linked with an increase in volatility.

PD May 1993. **TI** The Output and Stock Price Effects of Loose Antitrust: Experience Under the NRA. **AA** University of California, Davis and University of Chicago. **SR** University of Chicago Center for the Study of the Economy and the State Working Paper: 87; Center for the Study of the Economy and the State University of Chicago, 1101 East 58th Street, Chicago, IL 60637. **PG** 48. **PR** \$3.00; make check payable to "The University of Chicago.". **JE** L40, K21, G18, N22. **KW** Stock Market. NRA. Antitrust.

AB The National Industry Recovery Act of 1933 allowed the president to suspend antitrust laws on an industry-by-industry basis. It also contained labor and modest public works provisions. Minimum wages, maximum hours, and varied restrictions on output, capacity, pricing, and other behavior in the industry "codes" should have depressed output. Alternatively, some aspects of the codes may have represented efforts to respond to the difficulties fixed costs raise for purely competitive outcomes. On that view, output, especially new investment in industries with high fixed costs, should have increased. In fact, industrial production increased by 50 percent in mid-1933, coincident with the passage and early administration of the act by the National Recovery Administration. According to one conjecture, impending cartelization under the act led to an artificial, short-run boom. This paper reviews the data, including sector-by-sector stock price and output data, to investigate whether the boom was artificial, due to some other cause, or a reflection of longer-term expectations about the law. It also looks at stock-price reaction to the March 1933 Appalachian Coals decision, which sanctioned a joint sales agency, and the Schechter decision which declared the NIRA unconstitutional in May 1935.

PD June 1993. **TI** Government and the Stock Market: The Effects of Antitrust. **AA** University of California, Davis and University of Chicago. **SR** University of Chicago Center for the Study of the Economy and the State Working Paper: 89; Center for the Study of the Economy and the State University of Chicago, 1101 East 58th Street, Chicago, IL 60637. **PG** 40. **PR** \$3.00; make check payable to "The University of Chicago.". **JE** L40, K21, G14. **KW** Antitrust Policy. Stock Market.

AB Antitrust is one sort of government policy that may move stock prices. It regulates merger and other corporate activities,

and its long and volatile record of enforcement with lawsuits makes it easy to study. I find that an extra federal antitrust suit against an exchange-listed firm implies a decline of the S&P index of about one-half percent, an extra unexpected filing implies a decline of about one percent. Suits against unlisted firms have variable positive effects. Antitrust explains ten to twenty percent of annual stock returns. An event study of excess returns to individual firms confirms and extends earlier results: a case filing follows a decline of 4 percent against the market.

Blanchard, Pierre

PD April 1994. **TI** Robustness of Tests for Error Components Models to Nonnormality. **AU** Blanchard, Pierre; Matyas, Laszlo. **AA** Blanchard: University of Paris XII and ERUDITE. Matyas: Monash University and Budapest University of Economics. **SR** Monash Department of Econometrics Research Working Paper: 3/94; Department of Econometrics, Monash University, Clayton, Victoria 3168, AUSTRALIA. **PG** 16. **PR** no charge. **JE** C12, C15, C33. **KW** Panel Data. Nonnormality. Monte Carlo. Hypothesis Testing. Error Components Model.

AB A comprehensive empirical evaluation is presented of the sensitivity to nonnormality of the main tests for individual effects in a one-way error components panel data model.

Boldin, Michael D.

TI The Money Output Link: Are F-Tests Reliable? **AU** Abate, Joseph; Boldin, Michael D.

PD December 1993. **TI** Econometric Analysis of the Recent Downturn in Housing Construction: Was It a Credit Crunch? **AA** Federal Reserve Bank of New York. **SR** Federal Reserve Bank of New York Research Paper: 9332; Research Department - Room 901, Federal Reserve Bank of New York, 33 Liberty Street, New York, NY 10045. **PG** not available. **PR** no charge. **JE** R21, C51, C52. **KW** Residential Investment.

AB This paper strives to determine whether a credit crunch was responsible for the recent weak performance of the residential construction sector. The alternative hypothesis is that slack demand was a more important factor. The analysis starts by replicating and critiquing existing econometric models of residential construction. Out-of-sample simulations are then analyzed to determine whether fundamentals can explain the 1990-92 period. These results generally show unexplained weakness that may be due to a credit crunch. However, a break in housing demand is also a plausible explanation. I also find that these existing models do not adequately differentiate long-run (permanent) trends from short-run (temporary) factors. Therefore, I develop a new housing model that uses error-correction techniques. This model points to a significant break in long-run trend, suggesting that a downward shift in demand overwhelmed credit crunch effects and this change is likely to be permanent.

Boldrin, Michele

PD November 1993. **TI** A Chaotic Map Arising in the Theory of Endogenous Growth. **AU** Boldrin, Michele; Persico, Nicola. **AA** Northwestern University. **SR** Northwestern University Center for Mathematical Studies in Economics and Management Science Discussion Paper: 1071; 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.
JE O11, O41, E13. **KW** Balanced Growth. Development. Growth Cycles.

AB Growth theorists have almost always adopted the assumption of balanced growth in their investigations of development phenomena. In reality countries growth rates oscillate, sometimes wildly, around some average value. The latter is often taken to represent the balanced rate to which the development dynamics spontaneously tends to return after each perturbation. In this paper we try a different interpretation: the growth rate of capital stock in a developing economy oscillates within some bounded interval of feasible values and the balanced growth rate is in fact unstable. These oscillations may be persistent and endogenously determined by the accumulation process itself and they generate a non-trivial, invariant distribution of growth rates. We study a class of two-sector models displaying this feature in the presence of a positive external effect. The qualitative properties of a specific example are analyzed by means of analytical and numerical methods. Our simulations reveal that, while the artificial economy is certainly able to display rather impressive endogenous growth cycles, they occur only when the external effects are unreasonably strong. Similar to previous tentatives of modelling endogenous oscillations by means of a chaotic map, we succeed at the theoretical level but fall short of reproducing some crucial empirical properties of the growth cycles experienced by modern market economies.

Bollobas, Bela

PD November 1991. **TI** An Extremal Function for the Achromatic Number. **AU** Bollobas, Bela; Reed, Bruce; Thomason, Andrew. **AA** Bollobas and Thomason: Cambridge University. Reed: University of Bonn. **SR** Universitat Bonn Sonderforschungsbereich 303 - Discussion Paper: 92771; Sonderforschungsbereich 303 an der Universitat Bonn, Adenauerallee 24-42, D-5300 Bonn 1, DEUTSCHLAND. **PG** 6. **PR** no charge. **JE** C44. **KW** Achromatic Number. Extremal Function.

AB This paper investigates the extremal function for the achromatic number of a graph which is defined to be the maximum number of parts into which the vertex set may be partitioned so that between any two parts there is at least one edge.

Bottazzi, Jean-Marc

PD November 1993. **TI** Excess Demand With Incomplete Markets. **AU** Bottazzi, Jean-Marc; Hens, Thorsten. **AA** Bottazzi: Harvard University. Hens: Stanford University and University of Bonn. **SR** Universitat Bonn Sonderforschungsbereich 303 - Discussion Paper: A-421; Sonderforschungsbereich 303 an der Universitat Bonn, Adenauerallee 24-42, D-5300 Bonn 1, DEUTSCHLAND. **PG** 20. **PR** no charge. **JE** D52, G12. **KW** Incomplete Markets. Excess Demand. Real Assets.

AB This paper is aimed at characterizing excess demand functions around a non-critical spot price system in a two period exchange economy with incomplete markets and real assets.

Bowen, Brian

TI Why Has the Pricing of New Cars Changed?
AU Pashigian, B. Peter; Bowen, Brian.

Boycko, Maxim

PD April 1993. **TI** Voucher Privatization. **AU** Boycko, Maxim; Shleifer, Andrei; Vishny, Robert W. **AA** Boycko: GKI, Russia. Shleifer: Harvard University. Vishny: University of Chicago. **SR** University of Chicago Center for the Study of the Economy and the State Working Paper: 85; Center for the Study of the Economy and the State University of Chicago, 1101 East 58th Street, Chicago, IL 60637. **PG** 46. **PR** \$3.00; make check payable to "The University of Chicago." **JE** H11, H82, L33. **KW** Privatization. Eastern Europe.

AB Since 1990, several countries in Eastern Europe have initiated mass privatization programs. These programs provide for a rapid giveaway to the population of a large fraction of previously state-owned assets. This transfer of assets is unprecedented in recent history, because it is so comprehensive, rapid, and, most importantly, free. Not surprisingly, many economists have taken notice of, and even actively participated in, the design of mass privatization programs. Several recent studies, including Blanchard et al (1990), Frydman and Apaczynski (1991a, 1991b), Lipton and Sachs (1990), and Bolton and Rolland (1992) have described, advocated, criticized, and made recommendations for these programs. Yet these studies do not fully address some of the essential issues. First, they tend to underestimate the extent to which political rather than economic forces shape mass privatization in Eastern Europe--starting with the very decision to go with mass privatization down to details of program design. Second, they typically do not deal in as much detail as we do with the design of the programs. This paper, then, attempts to provide a more complete political and economic picture of mass privatization, particularly voucher privatization. While we draw on the experience of several countries in Eastern Europe, we focus on the case that we are most familiar with, namely the Russian mass privatization program.

Brauer, David

PD December 1993. **TI** Why Do Services Prices Rise More Rapidly Than Goods Prices? **AA** Federal Reserve Bank of New York. **SR** Federal Reserve Bank of New York Research Paper: 9330; Research Department - Room 901, Federal Reserve Bank of New York, 33 Liberty Street, New York, NY 10045. **PG** 25. **PR** no charge. **JE** E31, L80. **KW** Services. Prices. Productivity. Measurement.

AB Inflation in services has persistently exceeded goods inflation throughout the postwar period. This paper investigates several possible sources of this differential. One explanation is that the apparent differential is a statistical artifact resulting from problems with measurement of service inflation. A second proposed explanation emphasizes the inherently limited scope for advances in service sector productivity. A third hypothesis stresses the growth in demand for services, which exerts upward pressure on both wages and prices. The author finds that although measurement error exists, it cannot plausibly account for more than half of the observed differential. Growth in demand appears to be the dominant explanation for that portion of the differential representing true economic factors.

Bronars, Stephen G.

PD March 1994. **TI** Do Campaign Donations Alter How Politicians Vote? **AU** Bronars, Stephen G.; Lott, John R., Jr. **AA** Bronars: University of Texas. Lott: University of

Pennsylvania. **SR** University of Western Ontario Papers in Political Economy: 45.; Department of Economics, Social Science Centre, University of Western Ontario, London, Ontario, CANADA N6A 5C2. **PG** 22. **PR** no charge. **JE** D72, D73. **KW** Campaign Donations. Political Economy. Political Support.

AB This paper has sought to answer the causality question of whether campaign contributions are made to politicians because of their beliefs or because those politicians' support can be bought. By combining the existing debates on campaign contributions and whether politicians intrinsically value policy outcomes and analyzing how politicians behave during their last term in office, we provide a simple test that strongly rejects the notion that campaign contributions buy politician's votes.

Brooks, Robert D.

PD May 1994. **TI** Hypothesis Testing of Varying Coefficient Regression Models: Procedures and Applications. **AU** Brooks, Robert D.; King, Maxwell L. **AA** Brooks: Royal Melbourne Institute of Technology. King: Monash University. **SR** Monash Department of Econometrics Research Working Paper: 5/94; Department of Econometrics, Monash University, Clayton, Victoria 3168, AUSTRALIA. **PG** 55. **PR** no charge. **JE** C12, C14, C52, G13. **KW** Lagrange Multiplier Tests. Point Optimal Tests. Forward Pricing. Market Model.

AB There is a considerable literature in econometrics on varying coefficient regression models. Some of the proposed models are simple and parsimonious. However, given that even the simplest varying coefficient model is more complex than the constant coefficient model, researchers need to be able to test the adequacy of the constant coefficient simplification. This paper surveys the literature on testing for the presence of varying regression coefficients. We outline the wide variety of tests that have been proposed and look in detail at comparisons of the properties of different tests. In general, the literature indicates that tests that take into account the one-sided nature of the testing problem do best. Therefore, tests such as point optimal tests and locally most mean powerful tests typically have superior power properties relative to other available tests. The paper concludes with a review of the application of this methodology in two areas of empirical finance. These involve testing the time constancy of systematic risk in the market model and testing the unbiased prediction hypothesis in forward and futures markets.

Brown, Donald

PD July 1993. **TI** Computing Equilibria in the GEI Model. **AU** Brown, Donald; DeMarzo, Peter; Eaves, B. Curtis. **AA** Stanford University. **SR** Universitat Bonn Sonderforschungsbereich 303 - Discussion Paper: A-411; Sonderforschungsbereich 303 an der Universitat Bonn, Adenauerallee 24-42, D-5300 Bonn 1, DEUTSCHLAND. **PG** 22. **PR** no charge. **JE** D51, D52. **KW** General Equilibrium. Incomplete Markets.

AB Existence of equilibrium with incomplete markets is problematic because demand functions are typically not continuous. Discontinuities occur at prices for which an available asset suddenly becomes redundant. We show that this discontinuity disappears if we allow an agent in the economy to introduce a new asset when such redundancies occur. This enables us to prove existence in the GEI model using a standard path-following argument. In contrast with the previous

literature, our approach does not require the introduction of abstract manifolds such as the Grassmannian. Hence, available algorithms for path-following in K dimensional real space can be applied to compute equilibria in the GEI case.

PD December 1993. **TI** Walrasian Comparative Statics. **AU** Brown, Donald; Matzkin, Rosa. **AA** Brown: Stanford University. Matzkin: Northwestern University. **SR** Universitat Bonn Sonderforschungsbereich 303 - Discussion Paper: A-424; Sonderforschungsbereich 303 an der Universitat Bonn, Adenauerallee 24-42, D-5300 Bonn 1, DEUTSCHLAND. **PG** 28. **PR** no charge. **JE** D51, C62. **KW** General Equilibrium. Comparative Statics. Quantifier Elimination.

AB We present a finite system of polynomial inequalities in unobservable endogenous variables and market data that observations on market prices, individual incomes, and aggregate endowments must satisfy to be consistent with the equilibrium behavior of some pure exchange economy. We also derive a corresponding family of polynomial inequalities for production economies. For these economies, we give necessary and sufficient conditions in terms of observations on market prices, aggregate endowments, individual profit shares, and individuals' income from their endowments for these observations to be consistent with the equilibrium behavior of some production economy. We use quantifier elimination for both the two-person model of pure exchange and the two-sector general equilibrium model to derive comparative statics relationships between two observations on market data that are necessary and sufficient for the existence of utility functions and production functions which are consistent with equilibrium behavior in the pure exchange economy and the two-sector model.

Buiter, Willem H.

PD December 1993. **TI** Indian Public Finance in the 1990's: Challenges and Prospects. **AU** Buiter, Willem H.; Patel, Urjit R. **AA** Yale University. **SR** Yale Economic Growth Center Discussion Paper: 706; Economic Growth Center, Yale University, Box 208269, Yale Station, New Haven CT 06520. **PG** 58. **PR** \$2.00 + postage. **JE** E62, F31, H21, O53. **KW** India. Fiscal Policy. Solvency. Inflation Tax.

AB This study updates and extends to the period 88/89-92/93 our earlier analysis of the public finances of India. The foreign exchange crisis of early 1991 forced the government to recognize the severity of the fiscal crisis it was facing and led to the implementation of a restrictive fiscal and monetary program. Regarding the magnitude of the fiscal correction that was undertaken, we conclude that it was insufficient. Furthermore, significant increases in the public debt-GDP ratio would be destabilizing and inflationary financing of public sector deficits is not an option. We calculate that a further permanent increase in the public sector primary surplus of about four and a half points of GDP is needed to achieve the modest objective of stabilizing the public debt-GDP ratio. On the revenue side, this increase in the primary surplus is best achieved by expanding the direct and indirect tax bases and improving tax administration, collection, and enforcement. On the expenditure side, reductions in the general government wage bill, in fertilizer subsidies, in some (but not all) food subsidies and in operating and capital subsidies to public sector enterprises are recommended. For efficiency reasons and to support the proposed expenditure cuts, the overwhelming majority of the public sector enterprises should be privatized

and cut off from further government subsidies.

Bullard, James

PD March 1993. **TI** Learning in a Large Square Economy. **AU** Bullard, James; Duffy, John. **AA** Bullard: Federal Reserve Bank of St. Louis. Duffy: University of Pittsburgh. **SR** Federal Reserve Bank of St. Louis Working Paper: 94-013A; Research and Public Information Division, Federal Reserve Bank of St. Louis, P.O. Box 442, St. Louis, MO 63166. **PG** 46. **PR** no charge. **JE** D51, D83. **KW** Least Squares Learning. General Equilibrium. Forecasting.

AB Learning is introduced into a sequence of large square endowment economies indexed by n , in which agents live n periods. Young agents need to forecast $n - 1$ periods ahead in these models in order to make consumption decisions, and thus these models constitute multi-step ahead systems. Real time learning is introduced via least squares. The systems studied in this paper are sometimes locally convergent when $n = 2, 3$ but are never locally convergent when n is greater than or equal to 4. Because the economies studied are analogous, nonconvergence can be attributed solely to the multi-step ahead nature of the forecast problem faced by the agents. We interpret this result as suggesting that beliefs-outcomes interaction may be an important element in explaining actual dynamics in general equilibrium systems of this type.

PD November 1993. **TI** Monetary Steady States in a Low Real Interest Rate Economy. **AU** Bullard, James; Russell, Steven H. **AA** Bullard: Federal Reserve Bank of St. Louis. Russell: Indiana University-Purdue University at Indianapolis. **SR** Federal Reserve Bank of St. Louis Working Paper: 94-012A; Research and Public Information Division, Federal Reserve Bank of St. Louis, P.O. Box 442, St. Louis, MO 63166. **PG** 55. **PR** no charge. **JE** D51, E41, E43. **KW** Overlapping Generations. Risk-Free Rate. Steady State.

AB We examine the conditions under which steady states with low real interest rates--real rates substantially below the output growth rate--exist in an overlapping generations model with production, capital accumulation, a labor-leisure trade-off, technological progress, and agents who live for many periods. The number of periods in an agent's life (n) is left open for much of the analysis and determines the temporal interpretation of a time period. The qualitative properties of the model are largely invariant to different values of n . We find that two low real interest rate steady states exist for empirically plausible values of the parameters of the model. Outside liabilities such as fiat currency or unbacked government debt are valued in one of these steady states.

PD April 1994. **TI** Superneutrality in Postwar Economies. **AU** Bullard, James; Keating, John. **AA** Bullard: Federal Reserve Bank of St. Louis. Keating: Washington University. **SR** Federal Reserve Bank of St. Louis Working Paper: 94-011A; Research and Public Information Division, Federal Reserve Bank of St. Louis, P.O. Box 442, St. Louis, MO 63166. **PG** 43. **PR** no charge. **JE** C51, C52, E31, E42, E51. **KW** Superneutrality. Vector Autoregression. Inflation.

AB A structural vector autoregression is employed to estimate the real output level response to permanent inflation shocks. We identify the model by assuming that in the long-run, inflation is a monetary phenomenon. The model is estimated for a sample of 16 countries drawn from a larger pool of countries.

We select countries from the larger pool based on data quality, existence of long uninterrupted series on output and inflation, and evidence that the country experienced permanent shocks to inflation and output. The VAR is estimated for each country separately. We find some evidence of nonsuperneutrality, particularly for some low inflation countries, but in general our results suggest that superneutrality describes well most of the postwar economies we study.

PD May 1994. **TI** A Model of Learning and Emulation With Artificial Adaptive Agents. **AU** Bullard, James; Duffy, John. **AA** Bullard: Federal Reserve Bank of St. Louis. Duffy: University of Pittsburgh. **SR** Federal Reserve Bank of St. Louis Working Paper: 94-014B; Research and Public Information Division, Federal Reserve Bank of St. Louis, P.O. Box 442, St. Louis, MO 63166. **PG** 39. **PR** no charge. **JE** C63, D11, D51, D83. **KW** Learning. Genetic Algorithms. Overlapping Generations.

AB We study adaptive learning behavior in a sequence of n -period endowment overlapping generations economies, where n refers to the number of periods in agents' lifetimes. Agents initially have heterogeneous beliefs and seek to form multi-step-ahead consumption plans based on forecasts of future prices. Agents learn in every period by forming new consumption plans and by emulating the consumption plans of other agents. Computational experiments with artificial adaptive agents are performed. In these experiments, the heterogeneous population of artificial agents nearly always learns over time to form consumption plans consistent with perfect foresight knowledge of future prices. In particular, the learning and emulation model converges to a perfect foresight steady state of the n -period model in cases where a simple least squares learning model generally fails to converge. The model of learning and emulation is also used to study transition dynamics from one stationary perfect foresight equilibrium to another.

Caballero, Ricardo J.

PD May 1994. **TI** On the Timing and Efficiency of Creative Destruction. **AU** Caballero, Ricardo J.; Hammour, Mohamad L. **AA** Caballero: Massachusetts Institute of Technology and National Bureau of Economic Research. Hammour: Columbia University. **SR** Massachusetts Institute of Technology Department of Economics Working Paper: 94-18; Department of Economics, Massachusetts Institute of Technology, Cambridge, MA 02139. **PG** 49. **PR** \$8.00 Domestic; \$10.00 Overseas; \$5.00 Student. **JE** E32, E61, J64, O30. **KW** Sclerosis. Unemployment. Restructuring. Business Cycles. Efficiency.

AB This paper analyzes the timing, pace, and efficiency of the on-going job reallocation that results from product and process innovation. There are strong reasons why an efficient economy ought to concentrate both job creation and destruction during cyclical downturns, when the opportunity cost of reallocation is lowest. Malfunctioning labor markets can disrupt this synchronized pattern and decouple creation and destruction. Moreover, irrespective of whether workers are too strong or too weak, labor market inefficiencies generally lead to technological "sclerosis," characterized by excessively slow renovation. Government incentives to production may alleviate high unemployment in this economy, but at the cost of exacerbating sclerosis. Creation incentives, on the contrary, increase the pace of reallocation. We show how an optimal combination of both types of policies can restore economic

efficiency.

Calomiris, Charles W.

PD August 1994. **TI** Leverage as a State Variable for Employment, Inventory Accumulation, and Fixed Investment. **AU** Calomiris, Charles W.; Orphanides, Athanasios; Sharpe, Steven A. **AA** Calomiris: University of Illinois and National Bureau of Economic Research. Orphanides and Sharpe: Board of Governors of the Federal Reserve System. **SR** Board of Governors of the Federal Reserve System Finance and Economics Discussion Series: 94-24; Board of Governors of the Federal Reserve System, C/O Sharon Kozicki, Mail Stop 61, Federal Reserve Board, Washington, DC 20551. **PG** 34. **PR** no charge. **JE** E22, E24, G32. **KW** Leverage. Employment. Inventories. Fixed Investment.

AB The importance of a firm's balance sheet for determining its investment and employment decisions is the central assumption of macroeconomic models of "debt deflation" or "debt overhang." According to these models, firm investment decisions are influenced not only by the fundamental opportunity set of the firm, but also by the firm's existing financial condition, especially its leverage. This paper tests that assumption by examining whether the responsiveness of employment, investment, and inventory accumulation to exogenous changes in sales depend on the leverage of the firm. We find that leverage acts as an important state variable for conditioning the response of all three variables to changes in sales. We also find that this effect varies depending on the state of the economy. During recessions, higher leverage magnifies the contractionary effect of declines in sales on investment; during times of positive sales growth, higher leverage tends to dampen the expansionary effect of growth in demand. The size and significance of leverage conditioning effects are larger during recessions. These results support theoretical models of the potential importance of "debt overhang" effects. Firms that use debt to finance expansion during times of increasing demand suffer reduced ability to maintain growth during recessions as a consequence of their higher leverage.

Calvo, Guillermo A.

PD April 1994. **TI** Trade Reforms of Uncertain Duration and Real Uncertainty: A First Approximation. **AU** Calvo, Guillermo A.; Mendoza, Enrique G. **AA** International Monetary Fund. **SR** International Monetary Fund Working Paper: WP/94/45; International Monetary Fund, 700 19th Street, Washington, DC 20431. **PG** 30. **PR** not available. **JE** F13, F41, E61. **KW** Trade Reform. Real Shocks. Tariff Revenue.

AB This paper examines trade reforms of uncertain duration undertaken in economies subject to real foreign and domestic shocks. These reforms induce consumption and import booms regardless of whether they succeed or fail and of the degree of intertemporal elasticity of substitution. If tariff revenue is rebated, a recession follows the boom, but without rebates a boom or a recession may follow depending on the outcome of the reform. Consumption fluctuations reflect imperfect credibility and real shocks, and the credibility component depends on the mean and risk of real asset returns. Thus, observed booms are a noisy signal of imperfect credibility. Quantitatively, lack of credibility produces sizeable consumption cycles, but generally smaller than those induced by real disturbances.

Campbell, John Y.

PD May 1994. **TI** Models of the Term Structure of Interest Rates. **AU** Campbell, John Y.; Lo, Andrew W.; MacKinlay, A. Craig. **AA** Campbell: Princeton University and Federal Reserve Bank of Philadelphia. Lo: Massachusetts Institute of Technology. MacKinlay: University of Pennsylvania. **SR** Federal Reserve Bank of Philadelphia Research Working Paper: 94-10; Working Papers, Department of Research, Federal Reserve Bank of Philadelphia, 10 Independence Mall, Philadelphia, PA 19106. **PG** 39. **PR** no charge except overseas airmail, \$2.00; checks/money orders in U.S. funds payable to Federal Reserve Bank of Philadelphia. **JE** D52, E43, G12. **KW** Term Structure. Interest Rates. General Equilibrium.

AB In this paper we review the large modern literature on fully-specified general equilibrium models of the term structure of interest rates. Much of this literature is set in continuous time, which simplifies some of the theoretical analysis but complicates empirical implementation. Since our treatment emphasizes empirical implications of the models, we stay in discrete time throughout. We follow the literature by first developing models for real bonds, but we discuss in some detail how these models can be used to price nominal bonds.

Carey, Mark S.

PD August 1994. **TI** Partial Market Value Accounting, Bank Capital Volatility, and Bank Risk. **AA** Board of Governors of the Federal Reserve System. **SR** Board of Governors of the Federal Reserve System Finance and Economics Discussion Series: 94-21; 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** G18, G21, M41. **KW** Market Value Accounting. Bank Regulation. Bank Capital.

AB This paper presents evidence on the costs and benefits for the U.S. banking system of a partial version of market value accounting in which only securities are marked to market. The Financial Accounting Standards Board recently adopted such a standard (FAS 115). Because accounting for liabilities is unchanged, this accounting system has the same potential for misvaluing bank capital as historical cost accounting. Evidence from bank failure prediction models indicates that FAS 115 will not reduce bank failure rates. Other evidence indicates that net benefits will be small in absolute value, and of uncertain sign.

Carlino, Gerald

PD July 1994. **TI** Convergence and the U.S. States: A Time Series Analysis. **AU** Carlino, Gerald; Mills, Leonard. **AA** Carlino: Federal Reserve Bank of Philadelphia. Mills: Federal National Mortgage Association. **SR** Federal Reserve Bank of Philadelphia Research Working Paper: 94-13; Working Papers, Department of Research, Federal Reserve Bank of Philadelphia, 10 Independence Mall, Philadelphia, PA 19106. **PG** 16. **PR** no charge except overseas airmail, \$2.00; checks/money orders in U.S. funds payable to Federal Reserve Bank of Philadelphia. **JE** C32, D31, O47. **KW** Neoclassical Growth Model. Income Convergence. Time Series.

AB The time series properties of per capita earnings in the states and regions of the United States are tested for consistency with the neoclassical growth model's prediction of conditional per capita income convergence. We find evidence for convergence for the U.S. states and regions during the

1929-90 period after allowing for a break in the rate at which the various regions were converging in 1946. We take these findings to be supportive of the view of conditional convergence emanating from the neoclassical growth model.

Choi, Kang-Shik

PD July 1993. TI Technological Change and Educational Wage Differentials in Korea. AA Yale University. SR Yale Economic Growth Center Discussion Paper: 698; Economic Growth Center, Yale University, Box 208269, Yale Station, New Haven CT 06520. PG 39. PR \$2.00 + postage. JE I21, J31, O33. KW Technological Change. Wage Differential. Education.

AB This paper examines the effect of technological change on the educational wage differential across industries in Korea during the 1980's. We assume that workers with a higher schooling level have higher learning efficiency than workers with a lower schooling level, and this difference in learning efficiency is assumed to increase with more rapid changes in technology. Using total factor productivity growth rates and R&D expenditures to sales as proxies for technological change, we estimate an expanded Mincerian earnings function. We find that workers are paid more in industries where technology changes rapidly than in industries where technology changes slowly. Particularly, there is a tendency for female workers with 4 years of college education to benefit more from technological change than other female workers. We also find that there appears to be substantial R&D spillovers from advanced countries to Korea, particularly evident in the association between male wages and OECD R&D expenditures by Industry of Use.

Christopeit, Norbert

PD April 1994. TI On the Approximation of Random Variables by Stochastic Integrals With Respect to Semimartingales. AA University of Bonn. SR Universitat Bonn Sonderforschungsbereich 303 - Discussion Paper: B-277; Sonderforschungsbereich 303 an der Universitat Bonn, Adenauerallee 24-42, D-5300 Bonn 1, DEUTSCHLAND. PG 9. PR no charge. JE C12, C44. KW Approximation. Semimartingales. Stochastic Integrals. AB not available.

Chua, Hak Bin

PD September 1993. TI Regional Spillovers and Economic Growth. AA Yale University. SR Yale Economic Growth Center Discussion Paper: 700; Economic Growth Center, Yale University, Box 208269, Yale Station, New Haven CT 06520. PG 42. PR \$2.00 + postage. JE E23, O41, O47, R11. KW Spillovers. Externalities. Economic Growth. Development.

AB This paper presents estimates of indexes of external economies arising from regional spillovers. A country's economic growth rate is shown to depend not only on its domestic investment rate but also on the investment rate of its neighboring countries. The evidence for such positive regional spillovers is strong, accounting for 14 to 18 percent of a country's growth rate. The parameter estimates suggest that regional spillovers from human capital and physical capital are equally important. The paper also shows that in general, there are two important rates of convergence in a model with regional spillovers. The first can be interpreted as a convergence rate between countries within a region, and the

second as a convergence rate between regions within the world. The within-region convergence rate is estimated to be about 0.5 to 0.8 percent higher than the between-region convergence rate. Since poorer countries are usually located in a common region (Africa) and richer countries are clustered together in another region (Europe), regional spillovers slow down the convergence of income differentials and widen steady state income differentials between countries located in different regions. The inclusion of these regional spillover variables in standard cross-country regressions can also explain away much of the significance of the African and Latin American continent dummies.

TI Regional Instability and Economic Growth: Thy Neighbor's Curse. AU Ades, Alberto; Chua, Hak Bin.

Chvatal, V.

PD August 1992. TI Mick Gets Some (The Odds Are on His Side). AU Chvatal, V.; Reed, Bruce. AA Chvatal: Rutgers University. Reed: University of Bonn. SR Universitat Bonn Sonderforschungsbereich 303 - Discussion Paper: 92769; Sonderforschungsbereich 303 an der Universitat Bonn, Adenauerallee 24-42, D-5300 Bonn 1, DEUTSCHLAND. PG 18. PR no charge. JE C44. KW Satisfiability. Probabilistic Analysis. Random Discrete Structures.

AB Consider a randomly generated boolean formula F (in the conjunctive normal form) with m clauses of size k over n variables; k is fixed at any value greater than 1, but n tends to infinity and $m = (1 + o(1))cn$ for some c depending only on k . It is easy to see that F is unsatisfiable with probability $1 - o(1)$ whenever $c > (\ln 2)(2^k)$; we complement this observation by proving that F is satisfiable with probability $1 - o(1)$ whenever $c < (0.25)(2^k)/k$; in fact, we present a linear-time algorithm that satisfies F with probability $1 - o(1)$. (This result is a continuation of work by Chao and Franco.) In addition, we establish a threshold for 2-SAT: if $k = 2$ then F is satisfiable with probability $1 - o(1)$ whenever $c < 1$ and unsatisfiable with probability $1 - o(1)$ whenever $c > 1$.

Clarida, Richard H.

PD March 1993. TI Permanent Income, Import Prices, and the Demand for Imported Consumer Durables: A Structural Econometric Investigation. AA Columbia University and Federal Reserve Bank of New York. SR Federal Reserve Bank of New York Research Paper: 9304; Research Department - Room 901, Federal Reserve Bank of New York, 33 Liberty Street, New York, NY 10045. PG not available. PR no charge. JE C32, D11, F11. KW Consumer Durables. Imports. Cointegration. Permanent Income.

AB This paper derives a rational expectations, permanent income model of the demand for imported consumer durable goods. Assuming that the preferences of the representative household are addilog, our model implies that the log of the exact but unobservable utility index of permanent income must in equilibrium be cointegrated with log consumption of nondurables. Using nondurable consumption as our noisy proxy for permanent income, we estimate that log nondurable consumption, the log relative price of durables imports, and log spending on durables imports are cointegrated, and that this cointegrating vector exactly identifies the model's structural parameters. We are unable to reject the essential empirical implications of the model, and obtain sensible estimates of the price and income elasticities of the demand for imported

consumer durables. In particular, we find that consumer durable imports are quite price elastic in the long-run, and that the permanent income elasticity of imported durable goods demand averages 2.3.

Coate, Stephen

TI Understanding the Workhouse Test: Information and Poor Relief in Nineteenth-Century England. **AU** Besley, Timothy J.; Coate, Stephen; Guinnane, Timothy.

Coleman, James S.

PD May 1993. **TI** The Design of Schools as Output-Driven Organizations. **AA** University of Chicago. **SR** University of Chicago Center for the Study of the Economy and the State Working Paper: 88; Center for the Study of the Economy and the State University of Chicago, 1101 East 58th Street, Chicago, IL 60637. **PG** 34. **PR** \$3.00; make check payable to "The University of Chicago.". **JE** I21, I22. **KW** School Performance. Incentives. Education.

AB The aim of the paper is first to analyze the functioning of a particular type of constructed organization, elementary and secondary schools in the United States--and then to take some steps toward design of schools as organizations.

Cornell, Stephen

PD July 1993. **TI** Where Does Economic Development Really Come From?: Constitutional Rule Among the Modern Sioux and Apache. **AU** Cornell, Stephen; Kalt, Joseph P. **AA** Cornell: University of California, San Diego. **Kalt**: Harvard University. **SR** University of Western Ontario Papers in Political Economy: 41; Department of Economics, Social Science Centre, University of Western Ontario, London, Ontario, CANADA N6A 5C2. **PG** 43. **PR** no charge. **JE** D11, D51, D72, D73, O12. **KW** Self-Government. Public Goods. Exchange.

AB The institutions of self-government are classic Samuelsonian public goods. They are collective consumption goods that provide the organizational and legal structures by which societies arrange and enforce the "rules of the game" that enable divisions of labor, exchange, and collective action. Contractarian and public choice traditions in political science and economics emphasize the central role of constitutions as the foundational institutions that produce public institutions of self-government. Yet, explanation of the origins and dynamic equilibrium properties of constitutions inevitably confronts the "Hobbesian conundrum": Democratic constitutions are, themselves, public goods for which no super-government stands ready to prevent free-riding by self-interested usurpers: Constitutions are written on paper and might be expected to be subject to perpetual coalition cycling and/or non-democratic takeover; Paper constitutions are a veil of civility covering up a perpetually Hobbesian struggle. How do societies really establish more or less effective and stable institutions of self-government? This conundrum is leading many analysts to explore pre- and extra-constitutional socio-cultural foundations of social organization. This study argues that shared cultural norms of political legitimacy among rational individuals provide such foundations.

Costa, Dora L.

PD December 1993. **TI** Explaining the Changing Dynamics of Unemployment: Evidence From Civil War

Pension Records. **AA** Massachusetts Institute of Technology and National Bureau of Economic Research. **SR** National Bureau of Economic Research Working Paper Series on Historical Factors in Long Run Growth: 51; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge MA 02138. **PG** not available. **PR** \$5.00. **JE** H55, J38, J64, J23, N31. **KW** Pensions. Unemployment. Income Transfer.

AB I investigate why workers' probability of leaving unemployment has fallen since 1900 by estimating the impact of a large government transfer, the first major pension program in the United States, covering Union Army veterans of the Civil War. The pension, because of the program's rules, was a strict income transfer and these rules create a natural experiment to identify the effects of pensions and health on labor supply. Pensions exerted a large impact on the probability of long-term, but not of short-term unemployment. Estimated hazards suggest that, consistent with a job search model, pensions affected the probability of both entering and exiting unemployment. But, pensions mainly lowered the probability of leaving unemployment. The findings suggest that explanations for the secular rise in long-term unemployment should focus on factors such as the secular increase in wealth and the increased availability and generosity of unemployment benefits.

PD April 1994. **TI** Agricultural Decline and the Secular Rise in Male Retirement Rates. **AA** Massachusetts Institute of Technology and National Bureau of Economic Research. **SR** National Bureau of Economic Research Working Paper Series on Historical Factors in Long Run Growth: 55; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge MA 02138. **PG** not available. **PR** \$5.00. **JE** J13, J26, J43, N32. **KW** Labor Force. Agriculture. Retirement. Fertility.

AB Explanations for the decline in labor force participation rates of older men prior to 1950 have focused on the sectoral shift from agriculture to manufacturing. Labor force participation rates of men living in farm households have been consistently higher than those of men living in non-farm households. The decline in the size of the agricultural sector has coincided with the rise in male retirement rates. Using a new, longitudinal data set I argue that, at the beginning of the twentieth century, men who were farmers were no less likely to retire than men who were not farmers. Past researchers, who examined cross-sectional data, were misled because retired farmers often migrated from their farms. The findings have implications for the secular decline of fertility.

Currie, Janet

PD May 1993. **TI** Does Head Start Make a Difference? **AU** Currie, Janet; Thomas, Duncan. **AA** Yale University. **SR** Yale Economic Growth Center Discussion Paper: 694; Economic Growth Center, Yale University, Box 208269, Yale Station, New Haven CT 06520. **PG** 45. **PR** \$2.00 + postage. **JE** C33, I21, J15, J24. **KW** Child. Head Start. Welfare.

AB Although there is broad bi-partisan support for Head Start, the evidence of positive long-term effects of the program is not overwhelming. Using data from the National Longitudinal Survey's Child-Mother file, we examine the impact of the program on a range of child outcomes. We compare non-parametric estimates of program effects with estimates from parametric models that control for selection by including mother fixed effects. This comparison suggests that

studies that ignore selection can be substantially misleading; it also suggests that the impact of selection differs considerably across racial and ethnic groups. After controlling for selection, we find positive and persistent effects of participation in Head Start on the test scores of white and Hispanic children. These children are also less likely to have repeated a grade. We find no effects on the test scores or schooling attainment of African-American children. White children who attend Head Start are more likely to receive a measles shot, while African-American enrollees receive measles shots at an earlier age. African-American children who attend Head Start are also taller than their siblings. In a sample of the children's mothers, we find evidence that whites who attended Head Start as children are taller and have higher AFQT scores than their siblings who did not.

PD December 1993. **TI** Saving Babies: The Efficacy and Cost of Recent Expansions of Medicaid Eligibility for Pregnant Women. **AU** Currie, Janet; Gruber, Jonathan. **AA** Currie: University of California, Los Angeles and National Bureau of Economic Research. Gruber: Massachusetts Institute of Technology and National Bureau of Economic Research. **SR** Massachusetts Institute of Technology Department of Economics Working Paper: 94-11; Department of Economics, Massachusetts Institute of Technology, Cambridge, MA 02139. **PG** 28. **PR** \$8.00 Domestic; \$10.00 Overseas; \$5.00 Student. **JE** I12, I18, H51. **KW** Prenatal Care. Infant Mortality. Medicaid.

AB A key question for health care reform in the U.S. is whether expanded health insurance eligibility will lead to improvements in health outcomes. We address this question in the context of dramatic expansions in the Medicaid eligibility for pregnant women that took place during the 1980's. We build a detailed simulation model of each state's Medicaid policy during the 1979-1990 period, and use this model to estimate 1) the effect of changes in the rules on the eligibility of pregnant women for Medicaid, and 2) the effect of Medicaid eligibility changes on birth outcomes in aggregate Vital Statistics data. We have three main findings. First, the expansions did dramatically increase the Medicaid eligibility of pregnant women, but did so at quite differential rates across the states. Second, the expansions lowered the incidence of infant mortality and low birthweight; we estimate that the 20 percentage point increase in eligibility among 15-44 year old women was associated with a decrease in infant mortality of 7%. Third, earlier, targeted changes in Medicaid eligibility, such as through relaxations of the family structure requirements from the AFDC program, had much larger effects on birth outcomes than broader expansions of eligibility to all women with somewhat higher income levels. We suggest that the source of this difference was the much lower takeup of Medicaid coverage by individuals who became eligible under the broader expansions. We find that the targeted expansions, which raised Medicaid expenditures by \$1.7 million per infant life saved, were fairly cost effective compared to conventional estimates of the value of a life. We conclude that insurance expansions can improve health, but that translating eligibility to coverage may be the key link in making insurance policy effective.

Daianu, Daniel

PD May 1994. **TI** Inter-Enterprise Arrears in a Post-Command Economy: Thoughts From a Romanian Perspective. **AA** National Bank of Romania and International Monetary

Fund. **SR** International Monetary Fund Working Paper: WP/94/54; International Monetary Fund, 700 19th Street, Washington, DC 20431. **PG** 22. **PR** not available. **JE** D23, E52, E63, L52, O52. **KW** Inter-Enterprise Arrears. Resource Misallocation. Policy Credibility.

AB The paper considers that strain is the main source of inter-enterprise arrears in post-command economies. Strain can be linked with the structure of the economy and the size of resource misallocation. Inter-enterprise arrears "soften" markets and operate as a self-protecting device against the pressure for change. As temporary quasi-inside money, arrears fuel inflation. A paradox of policy credibility in undertaking structural adjustment is emphasized. Rising exports can be a possible side effect of arrears and a constraining factor: the size of the economy is seen as affecting the relationship between arrears and exports. An operational framework for containing arrears would include: "breaking up" structure; imposing a disciplining "straightjacket" on structure; industrial policy ("picking losers among losers"), and targeted external assistance. Containing arrears can not be a one shot policy-drive; here one deals with a process that will overlap in time with the evolving environment.

Dalebout, Arco

TI An Integrative Perspective on Designing Management Support Systems. **AU** Dutta, Soumitra; Wierenga, Berend; Dalebout, Arco.

Daniel, Timothy P.

PD July 1994. **TI** Disentangling Regulatory Policy: The Effects of State Regulations on Trucking Rates. **AU** Daniel, Timothy P.; Kleit, Andrew N. **AA** Daniel: Federal Trade Commission. Kleit: Louisiana State University. **SR** Federal Trade Commission Bureau of Economics Working Paper: 205; Bureau of Economics, Federal Trade Commission, 6th and Pennsylvania Ave. NW, Washington, D.C. 20580. **PG** 65. **PR** no charge. **JE** L51, L92. **KW** Motor Carrier. Trucking. Regulation.

AB This paper combines state-level data on trucking rates with information on state-level regulations to estimate the independent effect on rates from three different types of motor carrier regulations: rate regulation; entry regulation; and the provision of antitrust immunity for decisions made jointly by motor carrier rate bureaus. The empirical results indicate that state-level motor carrier regulations generally increase trucking rates, with entry regulation having the largest effect in the LTL (less-than-truckload) sector and rate regulation having the largest effect in the TL (truckload) sector. The study also examines interaction effects among the three types of regulations, and concludes that the combination of strict entry requirements and antitrust immunity leads to significant increases in trucking rates.

Davies, Sally M.

TI The Information Content of Bank Examinations. **AU** Berger, Allen N.; Davies, Sally M.

De Gregorio, Jose

PD April 1994. **TI** Credit Markets with Differences in Abilities: Education, Distribution, and Growth. **AU** De Gregorio, Jose; Kim, Se-Jik. **AA** International Monetary Fund. **SR** International Monetary Fund Working Paper: WP/94/47; International Monetary Fund, 700 19th Street,

Washington, DC 20431. PG 18. PR not available. JE O15, O16, O40, D52, J24. KW Credit Markets. Human Capital. Education. General Equilibrium.

AB This paper addresses the growth, welfare, and distributional effects of credit markets. We construct a general equilibrium model where human capital is the engine of growth and individuals differ in their education abilities. We argue that the existence of credit markets encourages specialization, by which individuals choose during their youth to work or to receive formal education. This specialization unambiguously increases growth and welfare. The model also shows that in economies with high (low) average level of education abilities, the opening of credit markets induces a more dispersed (equal) income distribution.

De Meyer, A.

PD 1994. TI Strategies for International Manufacturing. AU De Meyer, A.; Vereecke, A. AA INSEAD. SR INSEAD Working Papers: 94/25/SM/TM; INSEAD, Boulevard de Constance, Fontainebleau, 77305 Cedex, FRANCE. PG 14. PR not available. JE F23, L60, M11. KW Multinational Firms. Manufacturing. Corporate Strategy.

AB In the literature on production and operations management, little has been written about the international aspects of the field. How a company with operations in several countries should structure its operations is a question which still, to a large extent, remains unanswered in the literature. It is nevertheless an important question nowadays, as many companies become more global in their operations, and as even domestic companies are faced with global competitors. Managers have identified the lack of an adequate manufacturing strategy as one of the main barriers to the effective management of their international manufacturing operations. How to set up and manage an effective and efficient network of plants is a key issue here. In this paper we will give an overview of what we believe are key issues in the manufacturing strategy of a company with operations in several countries. We will first explore the main elements of the international network of plants. We will analyze the benefits of having one or more plants abroad, and discuss the number of plants in the international network and their optimal size. The selection of the plant location is a key decision in the process of building a network of international operations, and will therefore also be explored. We will pay attention to the allocation of manufacturing competence to the distinct plants in the network, and more specifically to the advantages and disadvantages of centralizing the manufacturing functions in the company. Each plant is just a building block which has to fit in the overall "architecture" of the international network. Therefore, two theoretical models will be described that provide insights for designing this network architecture of the multinational company. Next, we will explore some of the managerial issues that arise in the operations of such an international plant network: how to improve the overall productivity of the network, how to optimize the flow of information and the flow of goods within the network, and finally how to transform each plant in the network into a "virtual" plant.

DeMarzo, Peter

TI Computing Equilibria in the GEI Model. AU Brown, Donald; DeMarzo, Peter; Eaves, B. Curtis.

Diamond, Peter

PD April 1994. TI Optimal Income Taxation: An Example With a U-shaped Pattern of Optimal Marginal Tax Rates. AA Massachusetts Institute of Technology. SR Massachusetts Institute of Technology Department of Economics Working Paper: 94-14; Department of Economics, Massachusetts Institute of Technology, Cambridge, MA 02139. PG 7. PR \$8.00 Domestic; \$10.00 Overseas; \$5.00 Student. JE H21, D31. KW Taxation. Income Effects. Efficiency.

AB Income effects complicate tax analysis. In the presence of distorting taxes, income effects imply that lump-sum taxes have efficiency effects. Thus it is instructive to examine the optimal income tax in the Mirrlees (1971) model for the case of no income effects, the case where everyone has the utility function $u(x,y) = x + v(1-y)$, where x is consumption, y is labor (in percentage terms), and v is assumed to be strictly concave. The only difference assumed across individuals is a difference in skills, with an individual of skill n having a marginal product equal to n . The optimal income taxation problem is the maximization of the integral over the population of a concave function of utilities, subject to an aggregate budget constraint and subject to the constraint that individuals optimize in their choice of labor supply given the relationship between work and after-tax income.

PD June 1994. TI Insulation of Pensions From Political Risk. AA Massachusetts Institute of Technology. SR Massachusetts Institute of Technology Department of Economics Working Paper: 94-20; Department of Economics, Massachusetts Institute of Technology, Cambridge, MA 02139. PG 30. PR \$8.00 Domestic; \$10.00 Overseas; \$5.00 Student. JE H55. KW Social Security. Political Risk.

AB There are many sources of political risk to public provision of pensions. This paper analyzes legislation to alter the retirement income system. This approach naturally recognizes that some changes in the system are good responses to social risk, while others generate such risks. Thus the discussion is in terms of the legislative actions. Particular attention is paid to the roles of automatic pension adjustment and pension professionals in providing insulation. Briefly touched upon is the tendency of legislation to redistribute as a function of the type of system being created.

Dick, Andrew R.

PD February 1992. TI Japanese Antitrust Law and the Competitive Mix. AA University of California, Los Angeles. SR University of Chicago Center for the Study of the Economy and the State Working Paper: 74; Center for the Study of the Economy and the State University of Chicago, 1101 East 58th Street, Chicago, IL 60637. PG 29. PR \$3.00; make check payable to "The University of Chicago.". JE K21, L40, F13. KW Japan. Antitrust. Export Promotion.

AB Japanese antitrust law exempts a variety of vertical and horizontal restraints that are commonly regarded as anti-competitive. Measures of market structure, market power, and deadweight loss in the United States and Japan, however, indicate a striking similarity in the level of "competition" in the two countries despite their very dissimilar antitrust environments. This paper attempts to explain this apparent empirical paradox by adopting the hypothesis that antitrust alters foremost the relative mix of competitive forms, rather than the absolute level of competition. Three Japanese antitrust

exemptions are used to illustrate how particular vertical and horizontal restraints allow firms to substitute among price and non-price forms of competition. The examples show that by altering the competitive mix, these antitrust exemptions may in fact be efficiency-enhancing in cases of free-riding, public good investments, and empty cores. Evidence from several Japanese markets lends empirical support.

PD February 1992. **TI** Strategic Trade Policy and Welfare: The Empirical Consequences of Foreign Ownership. **AA** University of California, Los Angeles. **SR** University of Chicago Center for the Study of the Economy and the State Working Paper: 75; Center for the Study of the Economy and the State University of Chicago, 1101 East 58th Street, Chicago, IL 60637. **PG** 26. **PR** \$3.00; make check payable to "The University of Chicago.". **JE** F13, F21, F23, F41. **KW** Trade Policy. Foreign Ownership.

AB A common assumption in strategic trade models is that a firm's assets are owned exclusively by that country's residents, implying that trade policy objectives of domestic firms and domestic investors coincide. With international cross-ownership of assets, however, these interests will tend to diverge. This paper investigates the empirical importance of foreign ownership for strategic trade policy models' welfare conclusions. Two results are noteworthy. First, if firms behave cooperatively within each nation and non-cooperatively between nations, existing levels of international equity cross-ownership reduce the average optimal export subsidy by 61% relative to the Brander and Spencer (1985) value for U.S. manufacturing industries. Second, the subsidy-dampening effect of foreign ownership is greatest in precisely those industries whose cost or market characteristics might otherwise make strategic trade policies appear attractive. The paper's findings indicate the empirical importance of linking firms' foreign trade and investment decisions in models of trade policy.

Diermeier, Daniel

PD May 1994. **TI** Bargaining, Veto Power, and Legislative Committees. **AU** Diermeier, Daniel; Myerson, Roger B. **AA** Diermeier: Stanford University. Myerson: Northwestern University. **SR** Northwestern University Center for Mathematical Studies in Economics and Management Science Discussion Paper: 1089; Northwestern University, 2001 Sheridan Road, 3-014 Leverone Hall, Evanston, IL 60208-2014. **PG** 29. **PR** \$3.00 in U.S. and Canada; \$5.00 via international mail. **JE** D72, D73. **KW** Legislation. Veto Power. Committee Systems.

AB This paper compares the incentives to create obstructive committee systems under different constitutionally specified requirements for passing legislation. The Shapley value is used to measure the distribution of bargaining power in the legislature. If the legislature is bicameral or the president can veto, then each chamber of the legislature can increase its total bargaining power, at the expense of the other chamber or the president, by giving its committee chairmen the power to block legislation. This incentive to let committees act as gatekeepers with veto power can persist even when such power may cause some opportunities for beneficial legislation to be lost. This incentive is absent, however, in unicameral parliamentary systems.

Dow, Gregory K.

PD May 1993. **TI** Entry Fees, Firing Threats, and Work

Incentives: Capitalist and Labor-Managed Firms in Market Equilibrium. **AA** University of Alberta. **SR** University of Western Ontario Papers in Political Economy: 46; Department of Economics, Social Science Centre, University of Western Ontario, London, Ontario, CANADA N6A 5C2. **PG** 31. **PR** no charge. **JE** D21, J23, J33, J54. **KW** Employment Fees. Moral Hazard. Job Search.

AB Capitalist firms rarely require job applicants to pay up-front fees at the time of employment, even if employed workers receive substantial rents ex post. However, labor-managed firms often do collect entry fees from incoming members, and sometimes sell membership rights on open markets. This difference in firm behavior can be explained by differing degrees of firm-side moral hazard in capitalist and labor-managed firms. A capitalist firm which sells jobs will be tempted to dismiss incumbent workers in order to collect new fees from their replacements. Labor-managed firms internalize the rent losses inflicted on incumbent workers by dismissal, and hence do not succumb to this temptation.

Drazen, Allan

PD May 1994. **TI** Credibility of Policies Versus Credibility of Policymakers. **AU** Drazen, Allan; Masson, Paul R. **AA** Drazen: University of Maryland. Masson: International Monetary Fund. **SR** International Monetary Fund Working Paper: WP/94/49; International Monetary Fund, 700 19th Street, Washington, DC 20431. **PG** 14. **PR** not available. **JE** E43, E61, F31. **KW** Policy Credibility. Foreign Exchange. Devaluation.

AB Standard models of policy credibility, defined as the expectation that an announced policy will be carried out, emphasize the preferences of the policymaker, and the role of tough policies in signalling toughness and raising credibility. Whether a policy is carried out, however, will also reflect the state of the economy. We present a model in which a policymaker maintains a fixed parity in good times, but devalues if the unemployment rate gets too high. Our main conclusion is that if there is persistence in unemployment, observing a tough policy in a given period may lower rather than raise the credibility of a no-devaluation pledge in subsequent periods. We test this implication on data for the interest rate differential between France and Germany and find support for our hypothesis.

Dueker, Michael J.

PD February 1994. **TI** Compound Volatility Processes in EMS Exchange Rates. **AA** Federal Reserve Bank of St. Louis. **SR** Federal Reserve Bank of St. Louis Working Paper: 94-016A; Research and Public Information Division, Federal Reserve Bank of St. Louis, P.O. Box 442, St. Louis, MO 63166. **PG** 34. **PR** no charge. **JE** C22, G12. **KW** Volatility. Conditional Heteroskedasticity. Markov Switching. GARCH.

AB This paper introduces a GARCH/markov switching model to gain insights on the nature of the volatilities of exchange rates in target zones subject to realignments. The compound volatility model shows that five exchange rates within the European Monetary System display considerable heterogeneity with respect to discrete shifts in variance, the existence of conditional fourth moments, conditional skewness, persistence in the GARCH process, and the extent to which individual realignments act as innovations to the GARCH process. The foregoing are all factors that affect the prices of

currency futures and options contracts.

PD March 1994. **TI** Mean Reversion in Stock Market Volatility. **AA** Federal Reserve Bank of St. Louis. **SR** Federal Reserve Bank of St. Louis Working Paper: 94-015A; Research and Public Information Division, Federal Reserve Bank of St. Louis, P.O. Box 442, St. Louis, MO 63166. **PG** 26. **PR** no charge. **JE** C22, G12. **KW** Volatility. Conditional Heteroskedasticity. Markov Switching. GARCH.

AB This paper models stock market volatility as a compound GARCH/markov switching process to explain why stock market volatility shows much persistence during normal periods, yet is mean-reverting when volatility is abnormally high. In this respect, the compound model concurs with observed options prices in predicting, to a greater extent than ordinary GARCH models, substantial and relatively rapid decreases in volatility following large changes in the S&P 500 index.

Duffy, John

TI Learning in a Large Square Economy. **AU** Bullard, James; Duffy, John.

TI A Model of Learning and Emulation With Artificial Adaptive Agents. **AU** Bullard, James; Duffy, John.

Duraisamy, Malathy

PD June 1993. **TI** Women's Choice of Work and Fertility in Urban Tamil Nadu, India. **AA** Yale University. **SR** Yale Economic Growth Center Discussion Paper: 695; Economic Growth Center, Yale University, Box 208269, Yale Station, New Haven CT 06520. **PG** 28. **PR** \$2.00 + postage. **JE** C31, C78, J13, J16, J31. **KW** Women's Work. Wages. Fertility. India.

AB This paper examines the joint determinants of women's choice of work and fertility within the Nash-bargaining framework using household survey data from urban Tamil Nadu, India. The labor force participation decision is formulated in a dichotomous and trichotomous choice framework. Alternative estimation methods are used to estimate the parameters of the wage and the choice of work equations. The empirical results show that women do not regard the decision to participate in wage work as identical to self-employment. The trichotomous model emerges as the preferred formulation of women's work decision. The results suggest that an increase in women's wage would draw more women into wage work and self-employment and concomitantly reduce fertility. The neoclassical common preference model of the family is rejected in the choice of work but not in the fertility decisions. The estimates of the wage equations indicate a private rate of return to education of 13 percent for women and 11 percent for men.

Dutta, Soumitra

TI Reengineering and Organizational Change: Lessons From a Comparative Analysis of Case Studies. **AU** Ascari, A.; Rock, M.; Dutta, Soumitra.

PD 1994. **TI** An Integrative Perspective on Designing Management Support Systems. **AU** Dutta, Soumitra; Wierenga, Berend; Dalebout, Arco. **AA** Dutta: INSEAD. Wierenga and Dalebout: Erasmus University. **SR** INSEAD Working Papers: 94/29/TM/MKT; INSEAD, Boulevard de Constance, Fontainebleau, 77305 Cedex, FRANCE. **PG** 31. **PR** not available. **JE** M11, M21. **KW** Management

Support Systems. Decision Systems.

AB This research presents a new integrative perspective for the design of management support systems (MSS's). Three different objects of decision support (outcome, process, and learning) are combined with three different modes of decision support (automate, informate, and stimulate) to yield significant system design characteristics in terms of restrictiveness, guidance and customizability of MSS's. The dominant matches in the proposed integrative perspective (outcome, automate, and restrictiveness), (process, informate, and guidance) and (learning, stimulate, and customizability) characterize three typical decision support situations and have implications for the design of appropriate MSS's. The implementation of these conceptual ideas are illustrated in Brandframe, a MSS for supporting a brand manager in the domain of fast moving consumer goods. An empirical evaluation of Brandframe in a leading Dutch company is also presented in the paper.

Eaves, B. Curtis

TI Computing Equilibria in the GEI Model. **AU** Brown, Donald; DeMarzo, Peter; Eaves, B. Curtis.

Eberhart, Allan C.

TI Do Seniority Provisions Protect Bondholders' Investments? **AU** Altman, Edward I.; Eberhart, Allan C.

Engel, Joachim

PD January 1994. **TI** A Minimax Result for a Class of Nonparametric Density Estimators. **AU** Engel, Joachim; Gasser, Theo. **AA** Engel: University of Bonn. Gasser: University of Zuerich. **SR** Universitat Bonn Sonderforschungsbereich 303 - Discussion Paper: A-428; Sonderforschungsbereich 303 an der Universitat Bonn, Adenauerallee 24-42, D-5300 Bonn 1, DEUTSCHLAND. **PG** 10. **PR** no charge. **JE** C13, C14, C44. **KW** Nonparametric Estimation. Maximum Likelihood. Minimax Optimality.

AB A class of kernel type density estimators with locally varying bandwidth is introduced. This class contains the fixed bandwidth estimator, the nearest neighbor estimator, the penalized maximum likelihood estimator, and a variance stabilizing estimator. While based on asymptotic mean integrated square error (AMISE), there is no uniformly optimal method; the fixed bandwidth estimator is minimax optimal.

TI A Remedy for Kernel Regression Under Random Design. **AU** Kneip, Alois; Engel, Joachim.

PD April 1994. **TI** Recent Approaches to Estimating Income Distributions, Engel Curves and Related Functions. **AU** Engel, Joachim; Kneip, Alois. **AA** University of Bonn. **SR** Universitat Bonn Sonderforschungsbereich 303 - Discussion Paper: A-442; Sonderforschungsbereich 303 an der Universitat Bonn, Adenauerallee 24-42, D-5300 Bonn 1, DEUTSCHLAND. **PG** 32. **PR** no charge. **JE** C14, C21, D12, D31. **KW** Nonparametric Estimation. Income Distribution. Demand Analysis.

AB The paper surveys recent methods of nonparametric curve estimation in their relevance to some problems in econometrics: the estimation of income distributions, cross-sectional Engel curves, and other functions which depend on the demand in large economies. Instead of a comprehensive review of the literature, only aspects of nonparametric estimation are considered as they relate to the applications we

have in mind. In density estimation the concept of estimating skewed and heavy-tailed distributions is discussed. Estimating demand curves necessitates in particular to address nonparametric regression under a random design when the data are heteroskedastic.

Eom, Young Ho

TI Distress Classification of Korean Firms. AU Altman, Edward I.; Eom, Young Ho; Kim, Dong Won.

Erdoes, Peter L.

PD December 1991. TI Fourier Calculus on Finite Sets and Evolutionary Trees. AU Erdoes, Peter L.; Steel, M.; Szekely, Laszlo A. AA Erdoes: University of Groningen. Steel: Massey University and University of Bielefeld. Szekely: University of Bonn. SR Universitat Bonn Sonderforschungsbereich 303 - Discussion Paper: 91726-OR; Sonderforschungsbereich 303 an der Universitat Bonn, Adenauerallee 24-42, D-5300 Bonn 1, DEUTSCHLAND. PG 16. PR no charge. JE C60. KW Fourier Calculus. Evolutionary Trees. Fourier Inversion.

AB This paper is devoted to the thorough study of the Fourier inversion over the group Z sub 2 sup n. As application, we establish several identities, which generalize inclusion-exclusion, involve Krawtchouk polynomials. The main results are inversion formulae and invariants, some of which will provide a useful tool in the reconstruction of evolutionary trees. We also consider the generalization of our approach to evolutionary trees with finite Abelian groups instead of Z sub 2 sup n.

PD February 1992. TI Algorithms and Min-Max Theorems for Certain Multiway Cuts. AU Erdoes, Peter L.; Szekely, Laszlo A. AA Erdoes: University of Groningen and Hungarian Academy of Science. Szekely: University of Bonn. SR Universitat Bonn Sonderforschungsbereich 303 - Discussion Paper: 92749; Sonderforschungsbereich 303 an der Universitat Bonn, Adenauerallee 24-42, D-5300 Bonn 1, DEUTSCHLAND. PG 12. PR no charge. JE C61, C63. KW Menger's Theorem. Multiway Cut. Evolutionary Tree.

AB A greedy type algorithm and a min-max theorem is developed for the multiway cut problem of trees. Applications to biology also require complicated edge weights that also depend on the two components adjacent by the edge. We give a dynamic programming type algorithm for this more general problem and show that the min-max formula is no longer valid. As a substitute, we show a sort of min-max theorem that seems to fit the biological applications.

PD May 1992. TI Spectral Analysis and a Closest Tree Method for Genetic Sequences. AU Erdoes, Peter L.; Hendy, M.; Steel, M.; Szekely, Laszlo A. AA Erdoes: University of Twente, The Netherlands. Hendy: Massey University, New Zealand. Steel: University of Canterbury, New Zealand. Szekely: Eotvos University, Hungary and University of Bonn. SR Universitat Bonn Sonderforschungsbereich 303 - Discussion Paper: 92756; Sonderforschungsbereich 303 an der Universitat Bonn, Adenauerallee 24-42, D-5300 Bonn 1, DEUTSCHLAND. PG 7. PR no charge. JE C61. KW Evolutionary Tree. Genetic Sequence.

AB We describe a new method for estimating the evolutionary tree linking a collection of species from their aligned four-state genetic sequences. This method, which can

be adapted to provide a branch-and-bound algorithm, is statistically consistent provided the sequences have evolved according to a standard stochastic model of nucleotide mutation. Our approach exploits a recent group-theoretic description of this model.

PD June 1992. TI The Combinatorics of Evolutionary Trees - A Survey. AU Erdoes, Peter L.; Steel, M.; Szekely, Laszlo A. AA Erdoes: Hungarian Academy of Sciences. Steel: University of Canterbury, New Zealand. Szekely: University of Bonn. SR Universitat Bonn Sonderforschungsbereich 303 - Discussion Paper: 92761; Sonderforschungsbereich 303 an der Universitat Bonn, Adenauerallee 24-42, D-5300 Bonn 1, DEUTSCHLAND. PG 15. PR no charge. JE C60, C44. KW Evolutionary Tree. Enumeration. Inversion.

AB We survey here results and problems from the reconstruction theory of evolutionary trees, which involve enumeration and inversion.

Evans, Merran

PD May 1994. TI Burr Distribution Tables for Approximating p-Values and Critical Values by Matching Skewness and Kurtosis. AU Evans, Merran; Grose, Simone. AA Monash University. SR Monash Department of Econometrics Research Working Paper: 7/94; Department of Econometrics, Monash University, Clayton, Victoria 3168, AUSTRALIA. PG 27. PR no charge. JE C12. KW Burr Distributions. Approximations. Hypothesis Testing. AB Tables are presented for parameters c , k of the Burr III and XII distribution, which cover a wide grid of skewness and kurtosis values. These enable distributions, whose first four moments are known, to be approximated. The form of the Burr III and XII distribution functions allows p-values to be readily calculated. Applications include hypothesis testing, modelling, and simulation studies in a range of disciplines.

Figlewski, Stephen

PD May 1994. TI Forecasting Volatility Using Historical Data. AA New York University. SR New York University Salomon Brothers Working Paper: S-94-13; Salomon Brothers Center for the Study of Financial Institutions, Graduate School of Business Administration, New York University, 90 Trinity Place, New York, NY 10006. PG 29. PR not available. JE C31, C52, G12, G13. KW Option Pricing. Volatility. GARCH.

AB Applying modern option valuation theory requires the user to forecast the volatility of the underlying asset over the remaining life of the option, a formidable estimation problem for long maturity instruments. The standard statistical procedures using historical data are based on assumptions of stability, either constant variance, or constant parameters of the variance process, that are unlikely to hold over long periods. This paper examines the empirical performance of different historical variance estimators and of the GARCH(1,1) model for forecasting volatility in important financial markets over horizons up to five years. We find several surprising results: In general, historical volatility computed over many past periods provides the most accurate forecasts for both long and short horizons; root mean squared forecast errors are substantially lower for long-term than for short-term volatility forecasts; it is typically better to compute volatility around an assumed mean of zero than around the realized mean in the data sample, and the GARCH model tends to be less accurate and much harder to

use than the simple historical volatility estimator for this application.

Finaish, Mohamed

PD May 1994. **TI** The Arab Maghreb Union. **AU** Finaish, Mohamed; Bell, Eric. **AA** International Monetary Fund. **SR** International Monetary Fund Working Paper: WP/94/55; International Monetary Fund, 700 19th Street, Washington, DC 20431. **PG** 32. **PR** not available. **JE** F15, F23. **KW** Arab Maghreb Union. Founding Treaty. Institutional Arrangements.

AB The Founding Treaty of the Arab Maghreb Union (AMU), signed in February 1989, calls for a strengthening of all ties among its member states (Algeria, Libya, Mauritania, Morocco, and Tunisia), including a gradual move toward free circulation of goods, services, and factors of production among them. The paper provides an overview of the economic conditions in the AMU member countries, describes the institutional arrangements under the AMU, and assesses the progress made in attaining the economic objectives of the Treaty. In so doing, the paper identifies the main obstacles encountered in making progress toward the objectives of the Treaty and reviews actions that need to be taken to make further progress in the coming years. In that context, the paper also examines the relationship of the AMU countries with the European Union (EU).

Flanagan, Tom

PD February 1994. **TI** Invasion From the Right: The Reform Party in the 1993 Canadian Election. **AA** University of Calgary. **SR** University of Western Ontario Papers in Political Economy: 42; Department of Economics, Social Science Centre, University of Western Ontario, London, Ontario, CANADA N6A 5C2. **PG** 25. **PR** no charge. **JE** D72, D73, H80. **KW** Elections. Political Party. Reform Party.

AB As a result of the 1993 general election, the governing Progressive Conservatives were reduced to two seats and the New Democratic Party to nine in the Canadian House of Commons; consequently, both lost official status in the House. Their losses meant gains for two new parties: the Bloc Quebecois with 54 seats, all in Quebec; and the Reform Party of Canada with 52 seats, all but one in the four Western provinces. This unprecedented outcome raises the question of how new parties can successfully enter the political system when the odds are stacked heavily against them by the first-past-the-post voting system as well as by laws on party registration, funding, and advertising that work against small parties. This paper takes a closer look at the success of the Reform Party. It uses a simple spatial model of new-party entry, first suggested by Anthony Downs and later elaborated by Steven J. Brams and Rejean Landry, to examine the Reform Party's strategy during the election. It also employs both aggregate election results and survey data to test the application of the model.

Flyer, Frederick

PD August 1994. **TI** The New Economics of Teachers and Education. **AU** Flyer, Frederick; Rosen, Sherwin. **AA** Flyer: New York University. Rosen: University of Chicago. **SR** University of Chicago Center for the Study of the Economy and the State Working Paper: 94; Center for the Study of the Economy and the State University of Chicago.

1101 East 58th Street, Chicago, IL 60637. **PG** 49. **PR** \$3.00; make check payable to "The University of Chicago.". **JE** I21, J22. **KW** Education. Value of Time. Labor Force. Participation. Women.

AB Rapidly growing costs of elementary and secondary education are studied in the context of the rising value of women's time. The three-fold increase in direct costs of education per student in the past three decades was caused by increasing demand and utilization of teacher and staff inputs, attributable to growing market opportunities of women and changes in the structure of families. Substitution of purchased teacher and staff inputs for own household time in the total production of children's education and maturation is a predictable economic response to these forces. On the supply side, the "flexibility option," that female teachers who take temporary leaves to raise children do not suffer subsequent wage loss upon reentry, is shown to be an important attraction of the teaching profession to women. Other college educated women suffer reentry wage losses of 10 percent per year of leave. The estimated value of flexibility in teaching is 5 percent of life cycle earnings and will fall as labor force interruptions of women for childbearing become less frequent. Both supply and demand considerations suggest that the direct costs of education per student will continue to increase in the future, independent of political and other organization reforms of schools.

Foellmer, Hans

PD December 1992. **TI** A Microeconomic Approach to Diffusion Models for Stock Prices. **AU** Foellmer, Hans; Schweizer, Martin. **AA** Foellmer: University of Bonn. Schweizer: University of Goettingen. **SR** Universitat Bonn Sonderforschungsbereich 303 - Discussion Paper: B-233; Sonderforschungsbereich 303 an der Universitat Bonn, Adenauerallee 24-42, D-5300 Bonn 1, DEUTSCHLAND. **PG** 24. **PR** no charge. **JE** G12. **KW** Diffusion Models. Invariance Principle. Noise Traders.

AB This paper studies a class of diffusion models for stock prices derived by a microeconomic approach. We consider discrete-time processes resulting from a market equilibrium and then apply an invariance principle to obtain a continuous-time model. The resulting process is an Ornstein-Uhlenbeck process in a random environment, and we analyze its qualitative behavior. In particular, we provide simple criteria for the stability or instability of the corresponding stock price model, and we give explicit formulae for the invariant distributions in the recurrent case.

PD December 1993. **TI** Stock Price Fluctuation as a Diffusion in a Random Environment. **AA** University of Bonn. **SR** Universitat Bonn Sonderforschungsbereich 303 - Discussion Paper: B-264; Sonderforschungsbereich 303 an der Universitat Bonn, Adenauerallee 24-42, D-5300 Bonn 1, DEUTSCHLAND. **PG** 15. **PR** no charge. **JE** G12, D52, D84. **KW** Asset Prices. Temporary Equilibria. Diffusion Processes.

AB The fluctuation of stock prices is modelled as a sequence of temporary equilibria on a financial market with different types of agents. We summarize joint work with M. Schweizer on the class of Ornstein-Uhlenbeck processes in a random environment which appears in the diffusion limit. Moreover, we show how the random environment may be generated by the interaction of a large set of agents modelled by Markov chains as they appear in the theory of probabilistic cellular automata.

Foerster, Stephen R.

PD June 1993. TI Stock Market Performance and Elections: Made-In-Canada Effects? AA University of Western Ontario. SR University of Western Ontario Papers in Political Economy: 37; Department of Economics, Social Science Centre, University of Western Ontario, London, Ontario, CANADA N6A 5C2. PG 11. PR no charge. JE G11, G15, G18. KW Stock Market. Trading Strategy. Government. Elections.

AB This study investigates U.S. and Canadian influences of political environments on Canadian stock returns. Canadian markets follow four year Presidential cycles, but also react to Canadian political factors. Markets react favorably to changes in their own governments and Canadian markets react even stronger to U.S. regime changes. Canadian markets perform similarly under majority and minority governments. A trading strategy based on four year cycles outperforms a buy and hold equity investment and exhibits less risk.

Fogel, Robert W.

PD March 1994. TI The Relevance of Malthus for the Study of Mortality Today: Long-Run Influences on Health, Mortality, Labor Force Participation, and Population Growth. AA University of Chicago and National Bureau of Economic Research. SR National Bureau of Economic Research Working Paper Series on Historical Factors in Long Run Growth: 54; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge MA 02138. PG not available. PR \$5.00. JE I12, J21, N10. KW Mortality. Physiology. Life Cycle.

AB This paper argues that the secular decline in mortality, which began during the eighteenth century, is still in progress and will probably continue for another century or more. The evolutionary perspective presented in this paper focuses not only on the environment, which from the standpoint of human health and prosperity has become much more favorable than it was in Malthus's time, but also on changes in human physiology over the past three centuries which affect both economic and biomedical processes. A great deal of emphasis is placed on the interconnectedness of events and process over the life cycle and, by implication, between generations.

Folster, Stefan

PD December 1993. TI The Social Costs of Regulation and Lack of Competition in Sweden. AU Folster, Stefan; Peltzman, Sam. AA Folster: The Industrial Institute for Economic and Social Research, Stockholm. Peltzman: University of Chicago. SR University of Chicago Center for the Study of the Economy and the State Working Paper: 91; Center for the Study of the Economy and the State University of Chicago, 1101 East 58th Street, Chicago, IL 60637. PG 62. PR \$3.00; make check payable to "The University of Chicago.". JE K21, L41, L50. KW Cartels. Regulation. Sweden. Productivity. Prices.

AB Until 1993, cartels were legal in Sweden, and their birth and death was in principal a matter of public record. Here, Swedish practice departed sharply from most developed countries. Sweden also has apparently stringent regulatory barriers to competition in areas like environmental standards and food prices. We exploit a unique dataset to estimate the effect of cartels and regulation, as well as traditional market structure measures, on prices, output, and productivity in Swedish manufacturing. For 83 representative goods produced

in Sweden we have wholesale level prices in Sweden relative to the same goods' price in the EEC; and we know the relevant cartel arrangements. We also have firm level data that enable estimation of output and productivity effects. A puzzling finding is that cartels do not seem to raise prices but have substantial output effects (plus or minus 6% plus within a year of a change in cartel status). We find substantial price effects from environmental and food price regulation which are largely dissipated by static inefficiency in production. Productivity growth is well below average in both the cartelized and regulated sectors. More firms and higher concentration are both associated with lower prices.

Fraenkel, A.

PD May 1992. TI Complexity of Circuit Intersection in Graphs. AU Fraenkel, A.; Loebel, M. AA Fraenkel: The Weizmann Institute of Science, Israel. Loebel: University of Prague. SR Universitat Bonn Sonderforschungsbereich 303 - Discussion Paper: 92755; Sonderforschungsbereich 303 an der Universitat Bonn, Adenauerallee 24-42, D-5300 Bonn 1, DEUTSCHLAND. PG 19. PR no charge. JE C60. KW Knot Theory. Coding Theory. Circuit Intersection.

AB This paper considers two decision problems: strict bounded circuit intersection and nonstrict bounded circuit intersection.

Frank, Andras

PD May 1992. TI On Packing T-Cuts. AU Frank, Andras; Szigeti, Zoltan. AA Frank: University of Bonn. Szigeti: Eotvos University, Hungary. SR Universitat Bonn Sonderforschungsbereich 303 - Discussion Paper: 92759; Sonderforschungsbereich 303 an der Universitat Bonn, Adenauerallee 24-42, D-5300 Bonn 1, DEUTSCHLAND. PG 10. PR no charge. JE C60. KW T-Cuts. Seymour's Theorem.

AB New relationships are revealed among various known theorems concerning the packing of T-cuts.

PD June 1993. TI Minimal Edge-Coverings of Pairs of Sets. AU Frank, Andras; Jordan, Tibor. AA Frank: University of Bonn. Jordan: Eotvos University. SR Universitat Bonn Sonderforschungsbereich 303 - Discussion Paper: 93807; Sonderforschungsbereich 303 an der Universitat Bonn, Adenauerallee 24-42, D-5300 Bonn 1, DEUTSCHLAND. PG 24. PR no charge. JE C44. KW Combinatorial Optimization. Separation Problem.

AB A new min-max theorem concerning bi-supermodular functions on pairs of sets is proved. As a special case, we derive an extension of (A. Lubiw's extension of) E. Györi's theorem on intervals, W. Mader's theorem on splitting off edges in directed graphs, J. Edmonds' theorem on matroid partitions, and an earlier result of the first author on the minimum number of new directed edges whose addition makes a digraph k -edge-connected. As another consequence, we solve the corresponding node-connectivity augmentation problem in directed graphs.

TI Preserving and Increasing Local Edge-Connectivity in Mixed Graphs. AU Bang-Jensen, Jorgen; Frank, Andras; Jackson, Bill.

Franke, Gunter

PD May 1994. TI Who Buys and Who Sells Options: The Role of Options in a General Equilibrium Model with

Background Risk. AU Franke, Gunter; Stapleton, Richard C.; Subrahmanyam, Marti G. AA Franke: University of Konstanz. Stapleton: Lancaster University. Subrahmanyam: New York University. SR New York University Salomon Brothers Working Paper: S-94-10; Salomon Brothers Center for the Study of Financial Institutions, Graduate School of Business Administration, New York University, 90 Trinity Place, New York, NY 10006. PG 19. PR not available. JE D52, F31, G12. KW Option Pricing. Hedging Risk. Foreign Exchange.

AB In this paper, we derive an equilibrium in which some investors buy call/put options on an asset while others sell them. Also, some investors supply and others demand forward contracts. Since investors are assumed to have similar risk-averse preferences, the demand for these contracts is not explained by differences in the shape of the utility functions. Rather, it is the degree to which agents face other, non-hedgeable, background risks that determines their hedging behavior in the model. For example, a privately-held firm exposed to foreign exchange risk may have profits which also depend on non-hedgeable risks in specific product markets. Our model suggests that the degree to which the firm will hedge the foreign exchange risk depends on the level of firm-specific risk to which it is subject. We show that investors with low or no background risk sell portfolio insurance (i.e., they sell options on the market portfolio), whereas investors with high background risk buy those options. A general increase in background risk in the economy reduces the forward price of the market portfolio. Also, the price of put options rises and the price of call options falls. However, in an economy with given background risk, all options will be overpriced if the option pricing model ignores the background risk.

Frieze, A.

PD July 1992. **TI** When is the Assignment Bound Tight for the Asymmetric Traveling Salesman Problem? **AU** Frieze, A.; Karp, R.; Reed, Bruce. **AA** Frieze: Carnegie-Mellon University. Karp: University of California, Berkeley. Reed: University of Bonn. **SR** Universitat Bonn Sonderforschungsbereich 303 - Discussion Paper: 92764; Sonderforschungsbereich 303 an der Universitat Bonn, Adenauerallee 24-42, D-5300 Bonn 1, DEUTSCHLAND. **PG** 11. **PR** no charge. **JE** C44. **KW** Combinatorial Optimization. Graph Theory. **AB** not available.

Frumkin, Peter

PD January 1992. **TI** Analytic Review of Educational Choice Literature and Annotated Bibliography. **AA** University of Chicago. **SR** University of Chicago Center for the Study of the Economy and the State Working Paper: 73; Center for the Study of the Economy and the State University of Chicago, 1101 East 58th Street, Chicago, IL 60637. **PG** 51. **PR** \$3.00; make check payable to "The University of Chicago.". **JE** I21, I28. **KW** School Choice. Vouchers. Public Schools.

AB School choice is an approach to education that promises to change the decision-making process that determines the school a child attends. The advocates of school choice are quick to point out that while the differences between various choice programs are significant, there is one fundamental characteristic that unites all the disparate plans: school choice places the parent and child, not the state, at the center of the

educational process. At a certain level, the logic of choice is amazingly simple. Who could argue with the proposition that parents should have control over the educational destiny of their children? After all, it is parents who have the greatest interest in seeing those needs met. The best way for parents to accomplish this goal is through choice and the variety of educational opportunities it fosters.

Fry, Tim R. L.

PD April 1994. **TI** Testing for Independence of Irrelevant Alternatives: Some Empirical Results. **AU** Fry, Tim R. L.; Harris, Mark N. **AA** Monash University. **SR** Monash Department of Econometrics Research Working Paper: 2/94; Department of Econometrics, Monash University, Clayton, Victoria 3168, AUSTRALIA. **PG** 18. **PR** no charge. **JE** C25, C12, C52. **KW** Multinomial Logit. Hypothesis Testing. Simulation.

AB We estimate a multinomial Logit (MNL) model of U.K. Magistrates' Courts sentencing using a data set collected by the National Association for the Care and Resettlement of Offenders (NARCO) and test the independence of irrelevant alternatives (IIA) property using six tests. Conducting the tests with the appropriate asymptotic critical values we find that the acceptance or rejection of IIA depends both upon which test and which variant of a given test is used. The same tests are then performed using empirical critical values obtained by simulation and the resultant inferences compared. Our results show that empirical workers should exercise care when testing for IIA.

Frydl, Edward J.

PD June 1993. **TI** Studies on Excess Capacity in the Financial Sector. **AA** Federal Reserve Bank of New York. **SR** Federal Reserve Bank of New York Research Paper: 9310-9323; Research Department - Room 901, Federal Reserve Bank of New York, 33 Liberty Street, New York, NY 10045. **PG** 335. **PR** no charge. **JE** G20. **KW** Financial Institutions. Excess Capacity. Banks. Securities Firms. Insurance.

AB Studies on Excess Capacity in the Financial Sector is a collection of fourteen papers that examine aspects of excess capacity in banking and securities and insurance industries. Some papers deal with broad issues of conceptualization and measurement of excess capacity in financial services and examine potential causes of excess capacity in the broad groups of banking, securities, and insurance. Other papers take a more detailed look at specialized sectors such as credit cards, mutual funds, life insurance, property-casualty insurance, and foreign affiliate operations. Finally, some papers examine the effects of merger and consolidation activity on excess capacity.

Gandal, Neil

PD August 1994. **TI** The Effect of Reforms in the Israeli Telecommunications Sector on Total Factor Productivity Growth. **AA** Tel Aviv University. **SR** Tel Aviv Sackler Institute for Economic Studies Working Paper: 21/94; Department of Economics, Tel Aviv University, Ramat Aviv 69978, ISRAEL. **PG** 28. **PR** no charge. **JE** L33, L96, O41. **KW** Partial Privatization. Productivity. Telecommunications.

AB Until 1984, telecommunications services in Israel were provided by the Ministry of Communications. Telecommunications reform in Israel began with the

Telecommunications Act of 1982, which established Bezeq, a government-owned corporation. Bezeq replaced the Ministry of Communications as the provider of telecommunications services in 1984. In 1990, the government decided to sell up to twenty-five percent of the enterprise to private investors. By December 1992, slightly more than twenty-four percent of the company was held privately. This paper is an empirical study of how the reforms (incorporation and partial privatization) affected total factor productivity in the telecommunications sector in Israel.

Gasser, Theo

TI A Minimax Result for a Class of Nonparametric Density Estimators. AU Engel, Joachim; Gasser, Theo.

Gertler, Mark

TI The Financial Accelerator and the Flight to Quality. AU Gilchrist, Simon G.; Bernanke, Ben B.; Gertler, Mark.

Gilchrist, Simon G.

PD July 1994. TI The Financial Accelerator and the Flight to Quality. AU Gilchrist, Simon G.; Bernanke, Ben B.; Gertler, Mark. AA Gilchrist: Board of Governors of the Federal Reserve System. Bernanke: Princeton University. Gertler: New York University. SR Board of Governors of the Federal Reserve System Finance and Economics Discussion Series: 94-18; Board of Governors of the Federal Reserve System, C/O Sharon Kozicki, Mail Stop 61, Federal Reserve Board, Washington, DC 20551. PG 42. PR no charge. JE E32, E44, E51. KW Financial Accelerator. Credit Market. Economic Activity.

AB Adverse shocks to the economy may be amplified by worsening credit-market conditions--the "financial accelerator". Theoretically, we interpret the financial accelerator as resulting from endogenous changes over the business cycle in the agency costs of lending. An implication of the theory is that, at the onset of a recession, borrowers facing high agency costs should receive a relatively lower share of credit extended (the flight to quality) and hence should account for a proportionally greater part of the decline in economic activity. We review the evidence for these predictions and present new evidence drawn from a panel of large and small manufacturing firms.

Goss, Mimi Tennyson

PD April 1994. TI The Democratic Spirit of the Weimar Cinema. AA Harvard University. SR Harvard John F. Kennedy School of Government Faculty Research Working Paper Series: R94-12; John F. Kennedy School of Government, Harvard University, 79 John F. Kennedy Street, Cambridge, MA 02138. PG 35. PR no charge. JE H11, L82, N34, Z10. KW Cinema. Film. Germany. Nazi Party. Democracy.

AB This is a chapter of a book that takes a new look at the cinema of Germany's Weimar Republic, one of the most innovative periods in film history. Produced when film was a developing technology and democracy a new form of government in Germany, the films as a group suggest an artistic, political, and social openness. Nevertheless, Expressionist films of the period, with their foreboding styles and dark themes about madmen who desire absolute control, have been the genre most widely viewed by modern audiences. The book asks, have these films been overrepresented because they seem to offer evidence the Germans wanted a Hitler to lead them? And have other films been ignored because they

suggest a more progressive, democratic spirit at the time, which makes the rise of the Nazi Party more complicated and problematic?

Gotlibovski, Menachem

TI Immigration, Search and Loss of Skill. AU Weiss, Yoram; Gotlibovski, Menachem.

Grandmont, Jean-Michel

PD February 1993. TI Behavioral Heterogeneity and Cournot Oligopoly Equilibrium. AA CEPREMAP and Yale University. SR Universitat Bonn Sonderforschungsbereich 303 - Discussion Paper: A-402; Sonderforschungsbereich 303 an der Universitat Bonn, Adenauerallee 24-42, D-5300 Bonn 1, DEUTSCHLAND. PG 30. PR no charge. JE D43, L13. KW Aggregation. Heterogeneity. Imperfect Competition.

AB It is not unfrequent to see studies of imperfect competition or of industrial organization rest upon questionable foundations such as the hypothesis that inverse market demand is, whenever it is positive, concave or even linear. Assumptions of this sort are not robust (i.e., "additive") in the sense that they are not usually preserved through aggregation of different sectors that would satisfy them individually. The present paper investigates an alternative specification that is based upon the plausible existence of significant heterogeneities among demanders. It is demonstrated that specific forms of demand heterogeneity tend to stabilize market expenditures. In a partial equilibrium context, sufficient demand heterogeneity is shown to imply existence and unicity of a Cournot oligopoly equilibrium.

Grose, Simone

TI Burr Distribution Tables for Approximating p-Values and Critical Values by Matching Skewness and Kurtosis. AU Evans, Merran; Grose, Simone.

Grossman, Gene M.

PD August 1994. TI Electoral Competition and Special Interest Politics. AU Grossman, Gene M.; Helpman, Elhanan. AA Grossman: Princeton University. Helpman: Tel Aviv University. SR Tel Aviv Foerder Institute for Economic Research Working Paper: 19/94; Department of Economics, Tel Aviv University, Ramat Aviv 69978, ISRAEL. PG 37. PR no charge. JE D72. KW Electoral Competition. Interest Groups. Political Parties.

AB We study the competition between two political parties for seats in a parliament. The parliament will set two types of policies: ideological and non-ideological. The parties have fixed positions on the ideological issues, but choose their non-ideological platforms to attract voters and campaign contributions. In this context, we ask: How do the equilibrium contributions from special interest groups influence the platforms of the parties? We show that each party is induced to behave as if it were maximizing a weighted sum of the aggregate welfares of informed voters and members of special interest groups. The party that is expected to win a majority of seats caters more to the special interests.

PD August 1994. TI Foreign Investment With Endogenous Protection. AU Grossman, Gene M.; Helpman, Elhanan. AA Grossman: Princeton University. Elhanan: Tel Aviv University. SR Tel Aviv Foerder Institute for

Economic Research Working Paper: 22/94; Department of Economics, Tel Aviv University, Ramat Aviv 69978, ISRAEL. PG 40. PR no charge. JE F12, F13, F23. KW Protection. Foreign Investment. Political Economy.

AB Jagdish Bhagwati coined the phrase *quid pro quo* foreign investment to describe international investments made in anticipation of host country trade policy and perhaps with the intention of defusing a protectionist threat. We apply Bhagwati's notion to situations where (i) foreign investment is best described as the (uncoordinated) opening of branch plants by multinational corporations, and (ii) protection is a political response by an incumbent government to offers of policy-contingent campaign-contributions by domestic firms. We examine the determinants of anticipatory foreign investment and study some of its welfare implications. We also allow for lobbying by workers with sector-specific skills and show how the conflicting interests of these workers and the industrialists are resolved in determining policy toward foreign investment.

Grossman, Herschel I.

PD June 1994. TI Swords or Plowshares? A Theory of the Security of Claims to Property. AU Grossman, Herschel I.; Kim, Minseong. AA Brown University. SR Brown University Department of Economics Working Paper: 94-12; Department of Economics, Brown University, Providence, RI 02912. PG 26. PR no charge. JE D23, D31, D52, D74. KW Appropriation. Claims to Property. Economic Welfare.

AB This paper develops a general equilibrium model of the allocation of resources between appropriative and productive activities and the resulting security of claims to property. The model emphasizes the distinction between offensive and defensive appropriative activities. The analysis focuses on the possibility of a nonaggressive equilibrium, in which no resources are allocated to offensive appropriative activities and claims to property are fully secure. We find that a nonaggressive equilibrium requires either that offense would not be too effective against defense or that aggression would be sufficiently destructive. We also see that the relation between economic welfare and the security of claims to property is complex. For example, we find that, if claims to property are highly secure, then the cost of appropriative activities is larger the less secure are claims to property. But, if security of claims to property is low, then the cost of appropriative activities is larger the more secure are claims to property. Also, we find that, if offense is highly effective against defense and aggression is not too destructive, then a relatively poor agent could be better off in an equilibrium with less secure claims to property.

Gruber, Jonathan

TI Saving Babies: The Efficacy and Cost of Recent Expansions of Medicaid Eligibility for Pregnant Women. AU Currie, Janet; Gruber, Jonathan.

PD February 1994. TI Tax Incentives and the Decision to Purchase Health Insurance: Evidence From the Self-Employed. AU Gruber, Jonathan; Poterba, James. AA Massachusetts Institute of Technology and National Bureau of Economic Research. SR Massachusetts Institute of Technology Department of Economics Working Paper: 94-10; Department of Economics, Massachusetts Institute of Technology, Cambridge, MA 02139. PG 30. PR \$8.00 Domestic; \$10.00 Overseas; \$5.00 Student. JE H20, I11, I18, H51. KW Tax Incentives. Health Insurance. Self-Employed.

AB The Tax Reform Act of 1986 introduced a new tax subsidy for health insurance purchases by the self-employed. We analyze the changing patterns of insurance demand before and after tax reform to generate new estimates of how the after-tax price of insurance affects the discrete choice of whether to buy insurance. We employ both traditional regression models and difference-in-difference methods that compare changes in insurance coverage across groups around TRA86. The results from our most carefully controlled comparison suggest that a one percent increase in the cost of insurance coverage reduces the probability that a self-employed single person will be insured by 1.8 percentage points.

Guinnane, Timothy

PD August 1993. TI Cooperatives as Information Machines: The Lending Practices of German Agricultural Credit Cooperatives, 1883-1914. AA Yale University. SR Yale Economic Growth Center Discussion Paper: 699; Economic Growth Center, Yale University, Box 208269, Yale Station, New Haven CT 06520. PG 35. PR \$2.00 + postage. JE D21, G21, L13, L84. KW Credit Markets. Cooperatives. Financial Institutions.

AB Credit cooperatives are common institutions today and were numerous in several European countries during the nineteenth century. Credit cooperatives were especially successful in Germany. The credit cooperatives' success is surprising, given that German banks were highly developed relatively early. Why was there any room for another financial institution? One explanation offered by modern economists for the success of credit cooperatives emphasizes two features of cooperatives: they can capitalize on superior information about borrowers and they can impose relatively severe sanctions on miscreants. These features permit cooperatives to lend to individuals that banks would not want as customers and to tailor loan terms more closely to borrower's needs. German cooperators made similar arguments about the efficiency advantages of cooperatives in the nineteenth century. This paper uses the historical business records of several German credit cooperatives to test this hypothesis. We examine the lending policies of German credit cooperatives to see whether they differ from banks and other lenders in ways that suggest more information on borrowers, the ability to impose more severe sanctions on borrowers, or both. The results show that a real efficiency advantage was at least part of the explanation for the cooperatives' success.

TI Understanding the Workhouse Test: Information and Poor Relief in Nineteenth-Century England. AU Besley, Timothy J.; Coate, Stephen; Guinnane, Timothy.

TI Thy Neighbor's Keeper: The Design of a Credit Cooperative With Theory and a Test. AU Banerjee, Abhijit; Besley, Timothy J.; Guinnane, Timothy.

Hammour, Mohamad L.

TI On the Timing and Efficiency of Creative Destruction. AU Caballero, Ricardo J.; Hammour, Mohamad L.

Hardin, Russell

PD 1993. TI Institutional Morality. AA New York University. SR University of Western Ontario Papers in Political Economy: 38; Department of Economics, Social Science Centre, University of Western Ontario, London, Ontario, CANADA N6A 5C2. PG 23. PR no charge.

JE D21, D63. **KW** Morality. Institutions. Responsibility.
AB A central problem in the design of institutions is the assignment of responsibility. Almost all moral theories are about the morality of individuals, not of supra-individual entities such as organizations or societies. Hence, in those theories, an account of institutional responsibility must be subject to unpacking down to the level of individuals. This raises questions of composition: Who is how much responsible for which part of what? It is these compositional problems that are the focus of discussion here.

Hardouvelis, Gikas A.

PD July 1993. **TI** What Moves the Discount on Country Equity Funds? **AU** Hardouvelis, Gikas A.; La Porta, Rafael; Wizman, Thierry A. **AA** Federal Reserve Bank of New York. **SR** Federal Reserve Bank of New York Research Paper: 9324; Research Department - Room 901, Federal Reserve Bank of New York, 33 Liberty Street, New York, NY 10045. **PG** not available. **PR** no charge. **JE** C22, F21, G12. **KW** Equity Funds. Asset Pricing. Stock Markets.

AB The paper characterizes several empirical regularities of closed-end country fund prices and examines the extent to which a "sentiment" model of asset prices is consistent with the empirical regularities. We find that after controlling for the effect of cross-border investment restrictions, country funds trade at an average discount. Discounts vary substantially and contribute to a variance in country fund returns which is generally three times greater than the return on the underlying assets (NAV). Regression analysis suggests that discounts have predictive power for fund returns but not for NAV returns, suggesting that investor "sentiment" is a component of the price of a fund and not its NAV. Estimation of an unobserved components model on the discounts of the funds reveals a significant and strongly persistent common component across fund discounts. Regressions of fund and NAV returns on financial variables reveals that fund prices are "sticky" with respect to movements in the host country's stock market and overly sensitive to variation in the U.S. and world stock markets. This relation is unaffected when we consider separately funds whose host countries restrict cross-border investment and funds which invest in emerging stock markets.

Harris, Mark N.

TI Testing for Independence of Irrelevant Alternatives: Some Empirical Results. **AU** Fry, Tim R. L.; Harris, Mark N.

Harstad, Ronald

PD July 1993. **TI** Auctions With Endogenous Bidder Participation. **AA** Rutgers University and University of Bonn. **SR** Universitat Bonn Sonderforschungsbereich 303 - Discussion Paper: B-251; Sonderforschungsbereich 303 an der Universitat Bonn, Adenauerallee 24-42, D-5300 Bonn 1, DEUTSCHLAND. **PG** 51. **PR** no charge. **JE** D84, E22. **KW** Auction Theory. Risk Aversion. Industrial Economics.

AB Milgrom and Weber's General Symmetric Model of auctions is adapted to an extensive form in which the seller first announces rules for an auction, then each of a pool of potential bidders makes a rational choice whether to participate (i.e., to acquire some initial information at an opportunity cost). This fundamentally changes the way choices among auction rules are analyzed; some previously central questions lose much of their relevance. If an otherwise revenue-enhancing mechanism

discourages entry, then its net impact may be to reduce revenue. In this model, on average, revenue equals asset value to the winner less aggregate participation costs, for any standard auction mechanism. Seller chooses an allocatively efficient auction mechanism. A nontrivial reserve price is a revenue-inferior policy; other surplus-extracting devices have switched from complements to substitutes. Underlying parameters divide into two regions: one "overattractive," the other "underattractive." All expected revenue comparisons for a fixed number of bidders carry over to the overattractive region, and all are reversed for the underattractive region. Overattractiveness characterizes any auction with sufficiently low participation costs or sufficiently imprecise information. The paper considers extensions to multiple levels of participation costs and to risk aversion.

Hausman, Jerry A.

PD June 1994. **TI** Misclassification of a Dependent Variable in a Discrete Response Setting. **AU** Hausman, Jerry A.; Scott Morton, Fiona M. **AA** Massachusetts Institute of Technology and National Bureau of Economic Research. **SR** Massachusetts Institute of Technology Department of Economics Working Paper: 94-19; Department of Economics, Massachusetts Institute of Technology, Cambridge, MA 02139. **PG** 26. **PR** \$8.00 Domestic; \$10.00 Overseas; \$5.00 Student. **JE** C14, C25. **KW** Misclassification. Probit. Logit.

AB A dependent variable which is a discrete response causes the estimated coefficients to be inconsistent in a probit or logit model when misclassification is present. A researcher can correct the problem by employing a likelihood function approach and can explicitly estimate the extent of misclassification in the data. We also discuss a semi-parametric method of estimating both the probability of misclassification and the unknown slope coefficients which does not depend on an assumed error distribution and is also robust to misclassification of the dependent variable. Lastly, we derive the asymptotic distribution of the semi-parametric estimator.

PD June 1994. **TI** Valuation of New Goods Under Perfect and Imperfect Competition. **AA** Massachusetts Institute of Technology and National Bureau of Economic Research. **SR** Massachusetts Institute of Technology Department of Economics Working Paper: 94-21; Department of Economics, Massachusetts Institute of Technology, Cambridge, MA 02139. **PG** 30. **PR** \$8.00 Domestic; \$10.00 Overseas; \$5.00 Student. **JE** C43, E31, D12, L66. **KW** Consumer Price Index. Econometric Methods. Cereal.

AB The Consumer Price Index (CPI) attempts to answer the question of how much more (or less) income does a consumer require to be as well off in period 1 as in period 0 given changes in prices, changes in the quality of goods, and the introduction of new goods (or the disappearance of existing goods). The CPI has not attempted to estimate the effect of the introduction of new goods, despite the recognition of the potential importance of new goods on a cost-of-living index. In this paper, I first explain the theory of cost-of-living indices and demonstrate how new goods should be included using the classical theory of Hicks and Rothbarth. The correct price to use for the good in the pre-introduction period is the "virtual" price which sets demand to zero. Estimation of this virtual price requires estimation of a demand function which in turn provides the expenditure function which allows exact calculation of the cost-of-living index. The data requirements

and need to specify and estimate a demand function for a new brand among many existing brands requires extensive data and some new econometric method which may have proven obstacles to the inclusion of new goods in the CPI up to this point. As an example, I use the introduction of a new cereal brand by General Mills in 1989--Apple Cinnamon Cheerios. I find that the virtual price is about 2 times the actual price of Apple-Cinnamon Cheerios and that the increase in consumer surplus is substantial. Based on some simplifying approximations, I find that the CPI may be overstated for cereal by about 25% because of its neglect of the effect of new cereal brands. I then extend the classical Hicks-Rothbarth theory from its implicit assumption of perfect competition to the more realistic situation of imperfect competition among multi-product firms. When I take account of the effect of imperfect competition, I find that the increase in consumer welfare is only 85% as high as in the perfect competition case so that the CPI for cereal would still be too high by about 20%.

Helpman, Elhanan

TI Electoral Competition and Special Interest Politics.
AU Grossman, Gene M.; Helpman, Elhanan.

TI Foreign Investment With Endogenous Protection.
AU Grossman, Gene M.; Helpman, Elhanan.

PD August 1994. TI A Time to Sow and a Time to Reap: Growth Based on General Purpose Technologies.
AU Helpman, Elhanan; Trajtenberg, Manuel. AA Tel Aviv University. SR Tel Aviv Foerder Institute for Economic Research Working Paper: 23/94; Department of Economics, Tel Aviv University, Ramat Aviv 69978, ISRAEL. PG 48. PR no charge. JE O33, O41, C15, E32. KW Growth. Cycles. General Purpose Technologies. Technology.

AB We develop a model of growth driven by successive improvements in "General Purpose Technologies" (GPT's), such as the steam engine, electricity, or micro-electronics. Each new generation of GPT's prompts investments in complementary inputs, and impacts the economy after enough such compatible inputs become available. The long-run dynamics take the form of recurrent cycles: during the first phase of each cycle output and productivity grow slowly or even decline, and it is only in the second phase that growth starts in earnest. The historical record of productivity growth associated with electrification, and perhaps also of computerization lately, may offer supportive evidence for this pattern. In lieu of analytical comparative dynamics, we conduct simulations of the model over a wide range of parameters, and analyze the results statistically. We extend the model to allow for skilled and unskilled labor, and explore the implications for the behavior over time of their relative wages. We also explore diffusion in the context of a multi-sector economy.

Helwege, Jean

PD August 1994. TI Is There a Pecking Order? Evidence From a Panel of IPO Firms. AU Helwege, Jean; Liang, Nellie. AA Board of Governors of the Federal Reserve System. SR Board of Governors of the Federal Reserve System Finance and Economics Discussion Series: 94-22; Board of Governors of the Federal Reserve System, C/O Sharon Kozicki, Mail Stop 61, Federal Reserve Board, Washington, DC 20551. PG 29. PR no charge. JE G32, G24, D82, M21. KW Capital Structure. Pecking Order. Initial Public Offerings.

AB Myers (1984) and Myers and Majluf (1984) posit that asymmetric information problems cause firms to follow a pecking order when choosing the source of funds for new investment. Internal funds are preferred to external funds, and if external funds are obtained, safer instruments will be offered before risky ones. The empirical evidence to date has produced indirect evidence that mostly supports this theory, but, with many predictions that overlap those of a static tradeoff model, conclusions are difficult to draw. In this paper we examine the decision to obtain external financing, and when obtained, the type of financing, for a group of firms that completed initial public offerings in 1983. We investigate the security offerings of these firms over the decade between 1984 and 1993 using a multinomial logit model to determine if firms follow the pecking order. The array of financing choices made by these firms is rich--we observe straight and convertible bond offerings, private debt, and common equity offerings, as well as firms that never access any capital markets after their IPO's. In contrast, other studies typically examine older, established firms for which the pecking order collapses to a choice of internal funds or debt. Moreover, we expect that asymmetric information problems will be greater among the IPO's, and will likely decline as the firms age. We conclude from our investigation that firms do not obtain external funds based on their cash flow (Myers and Shyam-Sunder's (1992) cash deficit). Allowing for the possibility that weak firms with cash deficits are unable to tap the capital markets does not affect our results. Among firms that obtain funds externally, we have determined that firms do not follow the pecking order. The least risky firms are the most likely to issue public bonds, as predicted by the pecking order, but we find that firms that issue equity are no riskier than firms that obtain bank debt.

Hendy, M.

TI Spectral Analysis and a Closest Tree Method for Genetic Sequences. AU Erdoes, Peter L.; Hendy, M.; Steel, M.; Szekely, Laszlo A.

Henry, Jerome

PD May 1994. TI Asymmetry in the EMS Revisited: Evidence From the Causality Analysis of Daily Eurorates. AU Henry, Jerome; Weidmann, Jens. AA Henry: SEMEF. Weidmann: University of Bonn. SR Universitat Bonn Sonderforschungsbereich 303 - Discussion Paper: B-280; Sonderforschungsbereich 303 an der Universitat Bonn, Adenauerallee 24-42, D-5300 Bonn 1, DEUTSCHLAND. PG 30. PR no charge. JE F33, E43, E61. KW Asymmetry. Causality. Cointegration.

AB This study uses non-stationary econometrics to analyze asymmetry and dominance within the EMS through interest rate linkages between the French franc, the German deutsche mark and the U.S. dollar. High frequency data (daily Eurorates from April 1983 to the end of 1992) are used for their better suitability to the analysis of the causal linkages. We first show there is a break in the long-run structure of the system of interest rates: two sub-periods are therefore analyzed, before and after German unification. Three types of causality are then studied: causality in short-run dynamics and through long-run exogeneity in the VAR representation as well as neutrality in the MA representation. On both periods, causality tests confirm the French rate is submitted to the German dominance in the short-run. Posterior to the unification, the German interest rate is strongly exogenous, even with respect to the dollar. The

neutrality analysis also shows the forces driving the system are the dollar and the DM rates prior to unification, but only the latter afterwards.

Hens, Thorsten

PD November 1992. TI Exchange Rates and Oligopoly. AU Hens, Thorsten; Kirman, Alan; Philips, Louis. AA Hens: University of Bonn. Kirman and Philips: European University Institute, Florence. SR Universitat Bonn Sonderforschungsbereich 303 - Discussion Paper: A-401; Sonderforschungsbereich 303 an der Universitat Bonn, Adenauerallee 24-42, D-5300 Bonn 1, DEUTSCHLAND. PG 36. PR no charge. JE F12, F14, F31, F41, D43. KW Exchange Rates. Incomplete Markets. Independent Firms.

AB We consider two duopolistic firms which both operate in two countries. The markets of the two countries are separate and each of the firms produce its good in one of these countries. We study the effect of an exchange rate change on the prices in each country, on the level of sales, and profits of each of the firms. When strong restrictions such as constant marginal costs are imposed, prices move in the "right" direction in response to an exchange rate change. However, with general cost and demand structures, even in this simple model, it is possible for prices in both countries to move in "perverse" directions.

PD April 1993. TI Stability of General Equilibrium: Simultaneous Versus Sequential Adjustment Processes. AU Hens, Thorsten; Hildenbrand, Kurt. AA University of Bonn. SR Universitat Bonn Sonderforschungsbereich 303 - Discussion Paper: A-408; Sonderforschungsbereich 303 an der Universitat Bonn, Adenauerallee 24-42, D-5300 Bonn 1, DEUTSCHLAND. PG 19. PR no charge. JE D51. KW Exchange Economy. Tatonnement Process. Stability.

AB In an exchange economy we compare local asymptotic stability of a tatonnement process with that of an "iterative" process. In the tatonnement process current prices simultaneously determine current income and current demand. Whereas in the iterative process this "double role of the prices" is split since last period's prices determine current period's income and, for given income, current period's prices determine current period's demand. It is shown--under the working hypothesis that market demand for a fixed distribution of income is a monotone function--that the iterative process is unstable when the tatonnement process is unstable. Furthermore, for Scarf's example it is shown for many distributions of endowments that the iterative process is unstable even though the tatonnement process is stable. Thus the "sequential" iterative adjustment process has worse stability properties than the "simultaneous" tatonnement process.

TI Excess Demand With Incomplete Markets. AU Bottazzi, Jean-Marc; Hens, Thorsten.

PD June 1994. TI Note on Gross Substitution in Financial Markets. AU Hens, Thorsten; Loeffler, Andras. AA Hens: University of Bonn. Loeffler: Humboldt University of Berlin. SR Universitat Bonn Sonderforschungsbereich 303 - Discussion Paper: A-449; Sonderforschungsbereich 303 an der Universitat Bonn, Adenauerallee 24-42, D-5300 Bonn 1, DEUTSCHLAND. PG 6. PR no charge. JE D52, D81, G10. KW Gross Substitution. Risk Aversion. Financial Markets.

AB We develop a new condition that guarantees gross substitution of excess demand functions in a financial markets

general equilibrium model. From this condition we derive that in equilibrium, gross substitution holds for market excess demand if agents have constant absolute risk aversion or if risk sharing is complete. Furthermore, it follows from our condition that gross substitution holds for individual excess demand functions if the product of the agent's excess demand and her coefficient of absolute risk aversion is smaller than one. This result allows us to demonstrate that under some mild restrictions on the agent's risk aversion, gross substitution holds for sufficiently large endowments.

Hildenbrand, Kurt

TI Stability of General Equilibrium: Simultaneous Versus Sequential Adjustment Processes. AU Hens, Thorsten; Hildenbrand, Kurt.

Hildenbrand, Werner

PD November 1993. TI Der 'Kern' einer Tauschwirtschaft und vollstaendiger Wettbewerb. AA University of Bonn. SR Universitat Bonn Sonderforschungsbereich 303 - Discussion Paper: A-423; Sonderforschungsbereich 303 an der Universitat Bonn, Adenauerallee 24-42, D-5300 Bonn 1, DEUTSCHLAND. PG 22. PR no charge. JE not available. KW not available.

AB This paper is written in a language other than English.

Hines, James R.

PD January 1994. TI Credit and Deferral as International Investment Incentives. AA Harvard University. SR Harvard John F. Kennedy School of Government Faculty Research Working Paper Series: R94-10; John F. Kennedy School of Government, Harvard University, 79 John F. Kennedy Street, Cambridge, MA 02138. PG 28. PR no charge. JE D21, F23, H25, L51. KW Multinational Firms. Foreign Income. Taxation.

AB Many governments tax the foreign income of their firms, using a system that grants credits for foreign taxes paid and permits tax deferral for unrepatriated income. This paper shows that such tax systems encourage firms to restrict their equity stakes in new foreign investments, and to finance their new investments with considerable debt. These incentives exist even when transfer price regulation effectively limits the profit rates foreign subsidiaries can earn. The behavior of the foreign subsidiaries of U.S. multinationals in 1984 appears to be consistent with these incentives.

Ho, Mun S.

PD June 1994. TI On the Econometrics of Public Capital and Long-Run Productivity. AU Ho, Mun S.; Sorensen, Bent E. AA Ho: Harvard University. Sorensen: Brown University. SR Brown University Department of Economics Working Paper: 94-13; Department of Economics, Brown University, Providence, RI 02912. PG 28. PR no charge. JE H54, O47, C32. KW Public Capital. Productivity. Cointegration.

AB The impact of public capital on multifactor productivity has been the subject of much recent research which produced rather conflicting results. We re-examine this question paying special attention to the behavior of various econometric methods in the presence of a series as smooth as public capital. We find that the multivariate maximum likelihood cointegration test for number of unit roots performs poorly in this case, and that OLS estimation in differences gives

imprecise estimates. We also find that Engle-Granger tests for cointegration are inconclusive, leaving open the question whether asymptotically efficient single equation cointegration methods are valid, so our main conclusion is that the nature of the aggregate public capital series is such that no firm conclusions can be drawn from the data. If one is willing to make the assumption that public capital and productivity are cointegrated variables, then our results imply a quite high level of long-run correlation between these variables. Our results are similar for both aggregate and industry level productivity.

Ho, T. S.

PD May 1994. TI A Simple Technique for the Valuation and Hedging of American Options. AU Ho, T. S.; Stapleton, Richard C.; Subrahmanyam, Marti G. AA Ho and Stapleton: Lancaster University. Subrahmanyam: New York University. SR New York University Salomon Brothers Working Paper: S-94-11; Salomon Brothers Center for the Study of Financial Institutions, Graduate School of Business Administration, New York University, 90 Trinity Place, New York, NY 10006. PG 12. PR not available. JE C63, G12, G13. KW Option Pricing. Hedge Ratio. Computation.

AB The value and hedge ratio of an American-style option are shown to be closely approximated by a simple quadratic formula. The technique requires the estimation of the values and hedge ratios of just two options: a European option and a twice-exercisable option. These can be computed instantaneously, and hence the American values and hedge ratios can be rapidly computed for a large book of options with little computational effort.

Hohaus, Bolko

PD March 1994. TI Too Much Conformity? A Hotelling Model of Local Public Goods Supply. AU Hohaus, Bolko; Konrad, Kai; Thum, Marcel. AA Hohaus and Thum: University of Munich. Konrad: University of Munich and University of Bonn. SR Universitat Bonn Sonderforschungsbereich 303 - Discussion Paper: A-437; Sonderforschungsbereich 303 an der Universitat Bonn, Adenauerallee 24-42, D-5300 Bonn 1, DEUTSCHLAND. PG 7. PR no charge. JE H41, H73. KW Fiscal Federalism. Voting. Spatial Differentiation.

AB This paper considers a new dimension in the choice of local public goods: quality. The quality decision that is made by median voters in a Hotelling model of product differentiation leads to too much conformity from a welfare point of view.

Hooghe, Liesbet

PD 1993. TI Belgium: From Regionalism to Federalism. AA University of Western Ontario. SR University of Western Ontario Papers in Political Economy: 43; Department of Economics, Social Science Centre, University of Western Ontario, London, Ontario, CANADA N6A 5C2. PG 66. PR no charge. JE D74. KW Linguistics. Federalism. Conflict Management. Belgium.

AB Ethnic conflict in Belgium has been intense, but peaceful. Its roots are linguistic: a majority of the population speaks Dutch, but the official language in the nineteenth century was French. Ethnic demands and conflict management strategies were initially non-territorial, but increasingly acquired a territorial aspect. This contribution starts with a short historical introduction and data on the current ethno-linguistic balance. It

continues with an analysis of the principal sources of ethnic conflict and change over time. The following section tries to show why the territorial approach became the dominant strategy for conflict management and how Belgium evolved from regionalism to federalism. Finally, this approach is placed in a broader context of political conflict management in Belgium. It is argued that federalism is an attempt to continue the traditional consociational approach by other means, but that the legacy of consociationalism makes this a risky enterprise.

Houantchekon, Leonard M.

PD February 1994. TI A Model of Electoral Competition With Outside Options. AA Northwestern University. SR Northwestern University Center for Mathematical Studies in Economics and Management Science Discussion Paper: 1084; 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. JE D72, D78, D74, D82. KW Democratization. Voting Behavior. Bargaining Games. Political Violence.

AB This paper provides a framework to study a two party electoral competition followed by a bargaining process in which the loser might choose an outside option costly to the winner. I investigate how this institutional structure affects voting behavior and policy outcomes. In equilibrium, the probability of either candidate being elected decreases with its bargaining power. This paper stresses how uncertainty affects the probability of "civil unrest" which occurs when the loser exerts its outside option. I characterize an efficient mechanism for political bargaining under incomplete information and discuss the implications of the model for the study of political behavior under democratic transition.

Hougardy, Stefan

PD July 1993. TI Even and Odd Pairs in Linegraphs of Bipartite Graphs. AA University of Bonn. SR Universitat Bonn Sonderforschungsbereich 303 - Discussion Paper: 93811; Sonderforschungsbereich 303 an der Universitat Bonn, Adenauerallee 24-42, D-5300 Bonn 1, DEUTSCHLAND. PG 8. PR no charge. JE C44, C60. KW Bipartite Graphs. Polynomial Time. Graph Theory.

AB Two vertices in a graph are called an even pair resp. odd pair if all induced paths between these two vertices have even resp. odd length. Even and odd pairs have turned out to be of importance in conjunction with perfect graphs. We will characterize all linegraphs of bipartite graphs that contain an even resp. odd pair. Our characterization allows to decide in polynomial time whether a linegraph of a bipartite graph contains an even resp. odd pair.

Huang, Dongpei

PD April 1994. TI Information Externalities Affecting the Dynamic Pattern of Foreign Direct Investment: The Case of China. AU Huang, Dongpei; Shirai, Sayuri. AA Huang: Columbia University. Shirai: International Monetary Fund. SR International Monetary Fund Working Paper: WP/94/44; International Monetary Fund, 700 19th Street, Washington, DC 20431. PG 18. PR not available. JE D83, F20. KW Foreign Direct Investment. Information Externalities. Policy Implications.

AB The dynamic pattern of foreign direct investment (FDI) in developing countries shows a three-phase pattern. Despite government policies that promote it, initially the inflow of FDI

is sluggish, followed by a period of considerable fluctuation before finally entering the stage of rapid growth. The paper explains the pattern through recourse to two concepts: the searching process of individual investors and the information externalities of investors in the aggregate. Policy implications that may serve to shift an economy of a developing country from small-scale FDI to one of rapidly expanding FDI are considered. As China is a clear example of this pattern, it has been selected to promote understanding of the process.

Hughes, James W.

PD June 1992. TI Litigation Under the English and American Rules: Theory and Evidence. AU Hughes, James W.; Snyder, Edward A. AA Hughes: Amherst College. Snyder: University of Chicago. SR University of Chicago Center for the Study of the Economy and the State Working Paper: 80; Center for the Study of the Economy and the State University of Chicago, 1101 East 58th Street, Chicago, IL 60637. PG 42. PR \$3.00; make check payable to "The University of Chicago." JE K10, K41. KW English Rule. Litigation Costs. Trials.

AB From an international perspective, the American rule for allocating legal costs incurred in a dispute--whereby each party bears its own costs independent of the case's outcome--is exceptional. Throughout much of the world, the convention is that the losing party is liable for the winner's legal fees up to a reasonable limit. Reformers of the U.S. legal system have come to favor this alternative known, due to its origin, as the English rule. They believe that the loser-pays rule offers plaintiffs stronger incentives to file meritorious claims involving small potential awards and, at the same time, induces plaintiffs who might proceed with speculative claims to more carefully assess their merit. The Bush Administration has joined the reform movement and advocates adoption of a modified loser-pays rule for some federal cases. To gain insights into the workings of the legal system and public policies favoring various cost-allocation rules, in this paper we focus on how the English and American rules influence the outcomes of cases going to trial. Despite the relevance of such knowledge to an overall evaluation of alternative cost-allocation rules, little is known in this regard. Our empirical analysis uses data from Florida's experiment with the English rule for medical malpractice claims during the period July 1980 - September 1985. Our full data set includes 16,674 claims filed before, during, and after the period in which a loser-pays rule was in effect. The subset of litigated cases includes 1560 observations, 55.5 percent of which were governed by the English rule. These data are, in our opinion, the best available to evaluate the effects of alternative cost-allocation rules.

Humphrey, David B.

TI Bank Scale Economies, Mergers, Concentration, and Efficiency: The U.S. Experience. AU Berger, Allen N.; Humphrey, David B.

Hviid, Morten

TI Do Low-Price Guarantees Facilitate Collusion? AU Shaffer, Greg; Hviid, Morten.

Irwin, Douglas A.

PD January 1994. TI Trade Politics and the Semiconductor Industry. AA University of Chicago. SR University of Chicago Center for the Study of the

Economy and the State Working Paper: 92; Center for the Study of the Economy and the State University of Chicago, 1101 East 58th Street, Chicago, IL 60637. PG 78. PR \$3.00; make check payable to "The University of Chicago." JE F13, E61. KW Protection. Semiconductors. Political Economy.

AB This paper examines how the U.S. semiconductor industry became the beneficiary of the unprecedented 1986 sectoral trade agreement by analyzing the political and economic forces leading up to the accord and shaping subsequent events. The primary purpose of this paper is to understand how various groups--firms in the U.S. semiconductor industry, agencies within the U.S. government, and domestic semiconductor-using industries--interacted in the political realm in the determination of policy. To this end, I shall address how the economic structure of the industry and the legal framework of U.S. trade institutions shaped the opportunities of and the constraints on the industry and policymakers, and hence helped determine the observed outcomes. Particular attention will be devoted to how the political process functioned in the semiconductor case, with its unusual amalgamation of antidumping and market-opening actions which have been both celebrated and vilified. In addition, much of the interesting politics and negotiations behind U.S. semiconductor trade policy was not between the industry and the government as monolithic actors, but between factions within the industry and within the government. Although such maneuverings are often hidden from the public record, I shall attempt to shed some light upon the consensus-building process within the industry and the government that ultimately led to the 1986 agreement and the willingness of the Reagan Administration to impose high tariffs against a large foreign ally.

Iwami, Toru

PD April 1994. TI The Internationalization of Yen and Key Currency Questions. AA International Monetary Fund and University of Tokyo. SR International Monetary Fund Working Paper: WP/94/41; International Monetary Fund, 700 19th Street, Washington, DC 20431. PG 25. PR not available. JE F33, N20, E42. KW Currency. Japanese Economy. Capital Movements.

AB The role of the yen in the international financial system is reconsidered from a comparative (historical) approach. Compared with the D-Mark in the postwar years, the limited use of the yen results not so much from regulations on capital movements as from the structure and behavior of the Japanese economy. The history of the pound-sterling and the U.S. dollar reveals the fact that such factors as the network of foreign trade and economic size constitute the basis and "inertia" of a key-currency. Thus, for a currency to rise to a key-position in global transactions, real factors are more decisive than financial market arrangements. Seen from foreign economic relations, it is not possible for Japan to own a key-currency independent from the U.S. dollar.

Iwata, Satoru

PD September 1993. TI A Minimax Theorem and a Dulmage-Mendelsohn Type Decomposition for a Class of Generic Partitioned Matrices. AU Iwata, Satoru; Murota, Kazuo. AA Iwata: University of Tokyo. Murota: Kyoto University. SR Universitat Bonn Sonderforschungsbereich 303 - Discussion Paper: 93809; Sonderforschungsbereich 303

an der Universität Bonn, Adenauerallee 24-42, D-5300 Bonn 1, DEUTSCHLAND. PG 22. PR no charge. JE C44. KW Combinatorial Matrix Theory. Minimax Theorem. Submodular Function.

AB This paper discusses an extension of the Dulmage-Mendelsohn decomposition for a certain class of matrices whose row-set and column-set are divided into couples or singletons. A genericity assumption is imposed and an admissible transformation is defined in respect of this partition structure. Extensions of the König-Egervary theorem and the Hall-Ore theorem are established. The latter states that the rank of such a matrix is characterized by the minimum value of a submodular function, of which the set of minimizers yields a canonical block-triangularization under the admissible transformations.

PD September 1993. TI A Theorem on the Principal Structure for Independent Matchings. AU Iwata, Satoru; Murota, Kazuo. AA Iwata: University of Tokyo. Murota: Kyoto University. SR Universität Bonn Sonderforschungsbereich 303 - Discussion Paper: 93810; Sonderforschungsbereich 303 an der Universität Bonn, Adenauerallee 24-42, D-5300 Bonn 1, DEUTSCHLAND. PG 19. PR no charge. JE C44. KW Principal Structure. Principal Partition. Submodular System.

AB This paper defines the notion of principal structure for independent matchings as a particular instance of the principal structure of submodular systems due to S. Fujishige. A theorem which reveals the relationship between the principal structure and the principal partition is established. Previously known results on bipartite matchings and layered mixed matrices can be understood as special cases of this result.

Jackson, Bill

TI Preserving and Increasing Local Edge-Connectivity in Mixed Graphs. AU Bang-Jensen, Jorgen; Frank, Andras; Jackson, Bill.

Jackson, Matthew O.

PD March 1994. TI Costly Information Acquisition, Price Volatility, and Efficiency in Competitive Market Games. AU Jackson, Matthew O.; Peck, James. AA Jackson: Northwestern University. Peck: Ohio State University. SR Northwestern University Center for Mathematical Studies in Economics and Management Science Discussion Paper: 1087; Northwestern University, 2001 Sheridan Road, 3-014 Leverone Hall, Evanston, IL 60208-2014. PG 36. PR \$3.00 in U.S. and Canada; \$5.00 via international mail. JE G12, D82, D49, G14, C72. KW Price Formation. Price Volatility. Market Games. Information Acquisition.

AB We examine price formation in a simple static model with asymmetric information, a countable number of risk neutral traders, and without noise traders. Prices can exhibit excess volatility (the variance of prices exceeds the variance of dividends), even in such a simple model. More generally, we show that for an open set of parameter values no equilibrium has prices which turn out to equal the value of dividends state by state, while for another open set of parameter values there exist equilibria such that equilibrium prices equal the value of dividends state by state. When information collection is endogenous and costly, expected prices exhibit a "V-shape" as a function of the cost of information. They are maximized when information is either costless so that everyone acquires it, or else is so costly that no one chooses to acquire it. Prices are

depressed if information is cheap enough so that some agents become informed, while others do not. If the model is altered so that information is useful in making productive decisions, then the V-shape is altered, reducing the attractiveness of prohibitively high costs.

Jaffe, Adam B.

TI Market Barriers Market Failures, and the Energy Efficiency Gap. AU Stavins, Robert N.; Jaffe, Adam B.

Jagtiani, Julapa

PD February 1994. TI Scale Economies and Cost Complementarities in Commercial Banks: On- and Off-Balance-Sheet Activities. AU Jagtiani, Julapa; Nathan, Alli; Sick, Gordon. AA Jagtiani: Syracuse University. Nathan and Sick: University of Calgary. SR New York University Salomon Brothers Working Paper: S-94-7; Salomon Brothers Center for the Study of Financial Institutions, Graduate School of Business Administration, New York University, 90 Trinity Place, New York, NY 10006. PG 10. PR not available. JE C52, D21, G21, M41. KW Off-Balance-Sheet Activities. Scale Economies. Misspecification.

AB Bank off-balance-sheet (OBS) activities have grown dramatically, and have become significantly important especially at large banks. We investigate whether failure to incorporate OBS products may lead to a misspecification problem. Models that exclude deposits from the output specification suggest economies of scale, which vanish when deposits are included. We find that an inclusion of OBS products has little or no significant effect on the scale economies measures. With only a few exceptions, the results provide no evidence of cost complementarities in joint production. The tremendous growth of bank OBS activities in the 1980's may be explained by the very small (approximately zero) pecuniary cost of these activities.

PD February 1994. TI The Effect of Bank Capital Requirements on Bank Off-Balance Sheet Financial Innovations. AU Jagtiani, Julapa; Saunders, Anthony; Udell, Gregory. AA Jagtiani: Syracuse University. Saunders and Udell: New York University. SR New York University Salomon Brothers Working Paper: S-94-8; Salomon Brothers Center for the Study of Financial Institutions, Graduate School of Business Administration, New York University, 90 Trinity Place, New York, NY 10006. PG 22. PR not available. JE C31, C51, D21, G21, M41. KW Capital Requirements. Off-Balance-Sheet Activities. Financial Innovation.

AB A popular explanation for the explosive growth in banks' off-balance sheet (OBS) activities is the avoidance of capital adequacy requirements. Several studies have examined this and other motivations behind bank OBS activities with mixed results. We shed further light on the issue of OBS growth by modelling OBS products as financial innovations subject to a logistic diffusion adoption pattern. Our data also allows us to investigate the impact of important changes in capital adequacy regulations on OBS diffusion rates. We find that changes in capital requirements have had no consistent impact on the speed of diffusion across OBS activities.

Janeba, Eckhard

PD November 1993. TI Foreign Direct Investment Under Oligopoly: Profit Shifting or Profit Capturing? AA University of Bonn. SR Universität Bonn Sonderforschungsbereich 303 - Discussion Paper: A-420;

Sonderforschungsbereich 303 an der Universität Bonn, Adenauerallee 24-42, D-5300 Bonn 1, DEUTSCHLAND. PG 15. PR no charge. JE F23, H25, H87, L13. KW Foreign Direct Investment. Corporate Taxation. Imperfect Competition.

AB In this paper a model of taxation of foreign source corporate income is developed when the output market is not competitive. Profit shifting policies, similar to those in the new trade literature, are also present in the case of foreign direct investment (FDI). There are, however, important differences to the new trade theory since in case of FDI (i) corporate taxation and double taxation relief are the policy instruments rather than output/revenue taxes, (ii) countries are not symmetric in the sense that the host country has the first right to tax the multinational's profit and the home country reacts to this by providing double taxation relief, and (iii) output but not corporate taxation is specific to strategic industries. It is argued that (a) variants of a tax credit are analogous to export subsidies, (b) when the home country operates a tax credit system the host country's incentive to capture profits by raising its tax is bounded under imperfect competition, (c) the home country should imitate the host policy when the host country offers a tax holiday, and (d) in the presence of non-competitive sectors, double taxation relief is a good instrument to target strategic industries.

Jatoba, Jorge

PD May 1993. **TI** The Brazilian Family in the Labor Force, 1978-1988: A Study of Labor Supply. **AA** Yale University. **SR** Yale Economic Growth Center Discussion Paper: 693; Economic Growth Center, Yale University, Box 208269, Yale Station, New Haven CT 06520. **PG** 34. **PR** \$2.00 + postage. **JE** J21, N36, C31. **KW** Brazil. Labor Supply. Labor Force.

AB In this paper the family but not the individual is the unit of analysis and of observation. The family is considered central for labor participation decisions and for the assessment of the welfare of their members. This paper aims at a better understanding of how individuals who pool resources in the context of a family share labor force participation decisions. This study covers the years of 1978, 1983, 1986 and 1988. The source of data is "Pesquisa Nacional por Amostra de Domicilio-PNAD" (Household Survey) for those years. The unit of observation is the family living in an urban household in the metropolitan areas of the Northeast (Recife, Fortaleza, and Salvador) and of the Southeast (Rio, Sao Paulo, and Belo Horizonte). The regional differences are included in the analysis to assess whether spatial disparities affect the outcomes in terms of family labor force participation decisions. Families are classified by the sex of the head. The model presents evidence, after controlling for a set of features which influences labor force participation decisions, that there are significant income and unemployment effects in the labor supply response of Brazilian families to adverse economic conditions. This finding applies, in general, to the metropolitan areas of the Northeast and of the Southeast. However, the income effect is stronger in the Southeast and the unemployment effect more important in the Northeast. The income effect is strong among the very poor and weakens as the head's income increases. The unemployment effect is more generalized across head's income but, nevertheless, gets weaker as income grows. For all families headed by either men or by women, evidence points out that a drop in the head's

income or an increase in family unemployment will drive up family labor supply.

Jehiel, Philippe

TI Multidimensional Mechanism Design for Auctions with Externalities. **AU** Stacchetti, Ennio; Moldovanu, Benny; Jehiel, Philippe.

Jerison, David

PD January 1994. **TI** Commodity Aggregation and Slutsky Asymmetry. **AU** Jerison, David; Jerison, Michael. **AA** Jerison, D.: Massachusetts Institute of Technology. Jerison, M.: University of Bonn and SUNY, Albany. **SR** Universität Bonn Sonderforschungsbereich 303 - Discussion Paper: A-429; Sonderforschungsbereich 303 an der Universität Bonn, Adenauerallee 24-42, D-5300 Bonn 1, DEUTSCHLAND. **PG** 13. **PR** no charge. **JE** D11. **KW** Slutsky Symmetry. Revealed Preference. Commodity Aggregation.

AB Consumer expenditure data often violate the revealed preference axioms. The observed revealed preference inconsistencies must be measured in order to judge the extent to which optimizing models misrepresent demand behavior. This paper considers the "sizes" of violations of the Ville axiom, a differential revealed preference axiom that is equivalent to Slutsky symmetry. We study the effect of commodity aggregation on Ville axiom violations when the commodity aggregation is justified in the sense that it generates a well-defined aggregated demand function. Using a natural measure of Slutsky asymmetry and Ville axiom violation, we show that commodity aggregation can either expand or eliminate the revealed preference inconsistency. We obtain an upper bound on the increase in the maximal sizes of Ville axiom violations due to commodity aggregation. The Slutsky asymmetry norm of the aggregated demand can be larger than that of the original demand function by a factor that is no greater than the square root of (nm/N) , where N is the number of goods in the original demand system, m is the number of goods that are aggregated, and $n = N - m + 1$ is the number of goods in the aggregated system.

Jerison, Michael

TI Commodity Aggregation and Slutsky Asymmetry. **AU** Jerison, David; Jerison, Michael.

PD February 1994. **TI** Optimal Income Distribution Rules and Representative Consumers. **AA** SUNY, Albany. **SR** Universität Bonn Sonderforschungsbereich 303 - Discussion Paper: A-439; Sonderforschungsbereich 303 an der Universität Bonn, Adenauerallee 24-42, D-5300 Bonn 1, DEUTSCHLAND. **PG** 45. **PR** no charge. **JE** D11, D31, D61. **KW** Social Welfare. Representative Consumer. Income Distribution.

AB This paper derives observable properties of economies with optimal income distribution rules that specify consumers' incomes as functions of aggregate income and prices. Optimality implies that the aggregate demand function is generated by a single "representative" consumer, cf. Samuelson (1956). We derive an additional implication which, when consumers receive fixed shares of aggregate income, requires that the consumers' demands become more dispersed when aggregate income rises. This last condition has empirical support. The results relate the representative consumer's preferences to a version of Kaldor's compensation criterion and

show when both can be used for normative analysis without internal inconsistency.

Johnson, Ronald

PD May 1993. TI Bank Mergers and Excess Capacity: A Study of the Relative Operating Performance of Four Multi-Bank Holding Companies. AA Federal Reserve Bank of New York. SR Federal Reserve Bank of New York Research Paper: 9305; Research Department - Room 901, Federal Reserve Bank of New York, 33 Liberty Street, New York, NY 10045. PG not available. PR no charge. JE G21, G28, L21, L84. KW Mergers. Excess Capacity. Banking. Financial Institutions.

AB The share of banking assets that is held by multi-bank holding companies (MBHC's) increased considerably during the 1980's as these bank holding companies purchased a record number of depository (bank and thrift) institutions. MBHC's increased their reliance on mergers and acquisitions (M&A's) in response to the fundamental changes in the legal and regulatory structure of the U.S. banking industry and in response to the strength of the stock market. Arguably, the most important changes in the structure of banking laws and regulations were: the liberalization of interstate banking, intrastate branching and MBHC expansion laws, the relaxation of antitrust restrictions (especially concerning the definition of market concentration in banking and the recognition of thrifts as competitors), and the deregulation of interest rates on time and savings deposits at depository institutions.

Jones, Charles I.

TI Comparing Apples to Oranges: Productivity Convergence and Measurement Across Industries and Countries. AU Bernard, Andrew B.; Jones, Charles I.

Jordan, Tibor

TI Minimal Edge-Coverings of Pairs of Sets. AU Frank, Andras; Jordan, Tibor.

Kalt, Joseph P.

TI Where Does Economic Development Really Come From?: Constitutional Rule Among the Modern Sioux and Apache. AU Cornell, Stephen; Kalt, Joseph P.

Kane, Thomas J.

PD February 1994. TI College Entry by Blacks Since 1970: The Role of College Costs, Family Background and the Returns to Education. AA Harvard University. SR Harvard John F. Kennedy School of Government Faculty Research Working Paper Series: R94-7; John F. Kennedy School of Government, Harvard University, 79 John F. Kennedy Street, Cambridge, MA 02138. PG 31. PR no charge. JE J24, J71, I22, C22. KW Education. Discrimination. College Attendance.

AB College enrollment of Black 18-19 year-old high school graduates declined from 1980 through 1984 and then rebounded after 1984. This paper presents data from a time-series of cross-sections of 18-19 year-old youth from 1973 through 1988, to test the role of family background, direct college costs, local economic conditions, and returns to college in driving these trends. The evidence suggests that, on the one hand, increases in direct college costs were driving enrollment rates downward throughout the Eighties. On the other hand, dramatic increases in average parental education for Black

youth exerted upward pressure on college enrollment by Blacks, particularly in the later half of the decade. The net effect of these two factors contributed to the pattern of decline and recovery observed during the Eighties. Apparently those Blacks who benefited from the openings of educational opportunities in the Forties and Fifties have had children that are now reaching high school graduation and college age. Given the importance of parental education to the attainment of children, the ramifications of these earlier educational reforms are increasingly being felt today. Increases in the returns to education may also have contributed to the resurgence in college attendance by Blacks, although gender differences in the trend in the college earnings differential for Blacks was not reflected in differences in the trend in enrollment rates. The effect of state public tuition levels on enrollment rates for Blacks remained even after controlling for state fixed effects. Further, low-income White youth experienced similar trends in college enrollment as seen by Blacks, lending credence to the "rising college cost" hypothesis. At the same time, college enrollment rates rose for Whites from middle and higher income families during the Eighties. There is some time-series evidence that this increase in college enrollment may have been driven by increases in college earnings differentials during the Eighties.

Karp, R.

TI When is the Assignment Bound Tight for the Asymmetric Traveling Salesman Problem? AU Frieze, A.; Karp, R.; Reed, Bruce.

Keating, John

TI Superneutrality in Postwar Economies. AU Bullard, James; Keating, John.

Kilakos, K.

PD February 1992. TI Excluding Minors in Cubic Graphs. AU Kilakos, K.; Shepherd, B. AA Kilakos: University of Waterloo. Shepherd: University of Bonn. SR Universitat Bonn Sonderforschungsbereich 303 - Discussion Paper: 92748; Sonderforschungsbereich 303 an der Universitat Bonn, Adenauerallee 24-42, D-5300 Bonn 1, DEUTSCHLAND. PG 17. PR no charge. JE C60. KW Petersen Graph. Decomposition Theorem. Cubic Graph.

AB Let P-10 be the graph obtained by deleting an edge from the Petersen graph. We give a simple decomposition theorem for cubic graphs with no minor isomorphic to P-10. The decomposition is used to show that graphs in this class are 3 edge-colorable. We also consider an application to a conjecture due to Grotzsch which states that a planar graph is 3-edge colorable if and only if it is fractionally 3-edge colorable.

Kim, Dong Won

TI Distress Classification of Korean Firms. AU Altman, Edward I.; Eom, Young Ho; Kim, Dong Won.

Kim, Minseong

TI Swords or Plowshares? A Theory of the Security of Claims to Property. AU Grossman, Herschel I.; Kim, Minseong.

Kim, Se-Jik

TI Credit Markets with Differences in Abilities: Education, Distribution, and Growth. AU De Gregorio, Jose; Kim, Se-

Jik.

King, Maxwell L.

TI A Comparison of Marginal Likelihood Based and Approximate Point Optimal Tests for Random Regression Coefficients in the Presence of Autocorrelation. AU Rahman, Shahidur; King, Maxwell L.

TI Hypothesis Testing of Varying Coefficient Regression Models: Procedures and Applications. AU Brooks, Robert D.; King, Maxwell L.

TI One-Sided Hypothesis Testing in Econometrics: A Survey. AU Wu, Ping X.; King, Maxwell L.

Kirman, Alan

TI Exchange Rates and Oligopoly. AU Hens, Thorsten; Kirman, Alan; Philips, Louis.

Klazar, M.

PD August 1991. TI Linear Sequences. AU Klazar, M.; Valtr, P. AA Klazar: University of Praha. Valtr: University of Bonn. SR Universitat Bonn Sonderforschungsbereich 303 - Discussion Paper: 91716-OR; Sonderforschungsbereich 303 an der Universitat Bonn, Adenauerallee 24-42, D-5300 Bonn 1, DEUTSCHLAND. PG 6. PR no charge. JE C60. KW Linear Sequences. Forbidden Subsequences.

AB Davenport-Schinzel sequences are sequences that do not contain forbidden subsequences of alternating symbols. It is well-known that the maximum length of a Davenport-Schinzel sequence composed of n symbols is linear in n if and only if the length of the forbidden alternating subsequence is less than 5. J. Nešetřil posed the following natural extension of the original problem: When the maximum length of a sequence composed of n symbols which does not contain an arbitrary fixed subsequence is linear in n ? We give an answer for certain classes of forbidden subsequences.

Kleit, Andrew N.

TI Disentangling Regulatory Policy: The Effects of State Regulations on Trucking Rates. AU Daniel, Timothy P.; Kleit, Andrew N.

Kneip, Alois

PD February 1994. TI A Remedy for Kernel Regression Under Random Design. AU Kneip, Alois; Engel, Joachim. AA University of Bonn. SR Universitat Bonn Sonderforschungsbereich 303 - Discussion Paper: A-431; Sonderforschungsbereich 303 an der Universitat Bonn, Adenauerallee 24-42, D-5300 Bonn 1, DEUTSCHLAND. PG 16. PR no charge. JE C13, C14, C15. KW Kernel Regression. Non-Parametric Estimation. Smoothing.

AB Two common kernel-based methods for non-parametric regression estimation suffer from well-known drawbacks when the design is random. The Gasser-Muller estimator is inadmissible due to its high variance while the Nadaraya-Watson estimator has zero asymptotic efficiency because of poor bias behavior. Under asymptotic considerations, the local linear estimator avoids these two drawbacks of kernel estimators and achieves minimax optimality. However, when based on compact support kernels its finite sample behavior is disappointing because sudden kinks may show up in the

estimate. This paper proposes a modification of the kernel estimator, called the binned convolution estimator leading to a method about as fast as WARPING with asymptotic properties identical with those of the local linear estimator.

TI Recent Approaches to Estimating Income Distributions, Engel Curves and Related Functions. AU Engel, Joachim; Kneip, Alois.

Konrad, Kai

PD February 1994. TI Extortion. AU Konrad, Kai; Skaperdas, Stergios. AA Konrad: University of Bonn and University of Munich. Skaperdas: University of California, Irvine. SR Universitat Bonn Sonderforschungsbereich 303 - Discussion Paper: A-438; Sonderforschungsbereich 303 an der Universitat Bonn, Adenauerallee 24-42, D-5300 Bonn 1, DEUTSCHLAND. PG 30. PR no charge. JE H50, K42, L51. KW Extortion. Organized Crime. Law Enforcement.

AB Extortion of productive enterprises ("shops") by organized crime groups ("gangs") takes place in virtually all economies. We examine this activity and we find that its main harm comes from the long-run erosion and distortion of useful production it induces and from the wasteful competition among gangs the presence of extortion rents can bring about. To minimize this harm then, the ability of community and authorities to commit resources for the long haul is important. Among other results, we also find: gangs, in order to recoup tribute losses, may increase their activity in response to increased police protection; and forward-looking gangs tend to induce lower resource waste than gangs with short time horizons.

TI Too Much Conformity? A Hotelling Model of Local Public Goods Supply. AU Hohaus, Bolko; Konrad, Kai; Thum, Marcel.

Koticha, Appoorva

PD July 1993. TI Cross-Currency Interest-Rate Swap Options. AA Citibank, N.A. SR New York University Salomon Brothers Working Paper: S-94-9; Salomon Brothers Center for the Study of Financial Institutions, Graduate School of Business Administration, New York University, 90 Trinity Place, New York, NY 10006. PG 19. PR not available. JE F31, G12, G15. KW Swap Options. Foreign Exchange. Black-Scholes Pricing.

AB We consider the pricing of fixed-for-floating and fixed-for-fixed cross-currency interest-rate swap options (currency swaptions). We show that the first swaption is equivalent to an option to purchase, for a fixed strike price in the local currency, a stochastic number of foreign bonds, where the number is equal to the exchange rate on the exercise date. We also show that a fixed-for-fixed currency swaption is equivalent to an option to exchange one local bond for a stochastic number of foreign bonds, where, again, the number (of foreign bonds) is equal to the exchange rate on the exercise date. Under the assumptions that bond prices follow negative lognormal distributions in their own currencies and that the exchange rate is lognormally distributed, we obtain close-form (Black-Scholes) pricing formulae for fixed-for-floating and fixed-for-fixed European currency swaptions. We also derive parity relationships between different types of these swaptions.

La Porta, Rafael

TI What Moves the Discount on Country Equity Funds?
AU Hardouvelis, Gikas A.; La Porta, Rafael; Wizman, Thierry A.

Lach, Saul

PD April 1994. **TI** Staggering and Synchronization in Price-Setting: Evidence From Multiproduct Firms. **AU** Lach, Saul; Tsiddon, Daniel. **AA** Lach: Hebrew University and National Bureau of Economic Research. Tsiddon: Brown University. **SR** Brown University Department of Economics Working Paper: 94-10; Department of Economics, Brown University, Providence, RI 02912. **PG** 56. **PR** no charge. **JE** D21, D40, L21. **KW** Synchronization. Price-Setting. Multiproduct Firms.

AB Most of the theoretical literature on price-setting behavior deals with the special case in which only a single price is changed. At the retail-store level, at least, where dozens of products are sold by a single price-setter, price-setting policies are not formulated for individual products. This feature of economic behavior raises a host of questions whose answers carry interesting implications. Are price setters staggered in the timing of price changes? Are price changes of different products synchronized within the store? If so, is this a result of aggregate shocks or of the presence of a store-specific component in the cost of adjusting prices? Can observed small changes in prices be rationalized by a menu cost model? We exploit the multiproduct dimension of the dataset on prices used in Lach and Tsiddon (1992a) to explore several of these and other issues. To the best of our knowledge this is the first empirical work on this subject.

Lakonishok, Josef

PD April 1993. **TI** Contrarian Investment, Extrapolation, and Risk. **AU** Lakonishok, Josef; Shleifer, Andrei; Vishny, Robert W. **AA** Lakonishok: University of Illinois. Shleifer: Harvard University. Vishny: University of Chicago. **SR** University of Chicago Center for the Study of the Economy and the State Working Paper: 84; Center for the Study of the Economy and the State University of Chicago, 1101 East 58th Street, Chicago, IL 60637. **PG** 39. **PR** \$3.00; make check payable to "The University of Chicago." **JE** G12, G14. **KW** Risk Returns. Value Growth. Stock Analysis.

AB For many years, stock market analysts have argued that value strategies outperform the market (Graham and Dodd, 1934). These value strategies call for buying stocks that have low prices relative to earnings, dividends, historical prices, book assets, or other measures of value. In recent years, value strategies have attracted academic attention as well. Basu (1977); Jaffe, Keim, and Westerfield (1989); Chan, Hamao, Lakonishok (1991); and Fama and French (1992a) have shown that stocks with high earnings price ratios earn higher returns. De Bondt and Thaler (1985, 1987) have argued that extreme losers outperform the market over the subsequent several years. Despite considerable criticism (Chan (1988), Ball and Kothari (1989)), their analysis has generally stood up to the tests (Chopra, Lakonishok, Ritter (1992)). Rosenberg et al (1984) show that stocks with high book relative to market values of assets outperform the market. Further work (Chan, Hamao and Lakonishok (1991), Fama and French 1992a), has both extended and refined these results. Finally, Chan, Hamao, and Lakonishok (1991) show that a high ratio of cash flow to price

also predicts higher returns. Interestingly, many of these results have been obtained for both the U.S. and Japan. Certain types of value strategies, then, appear to beat the market. While there is some agreement that value strategies work, the interpretation of why they work is more controversial. Value strategies might work because they are contrarian to naive strategies followed by other investors. These naive strategies might range from extrapolating past earnings growth too far into the future, to assuming a trend in stock prices, to overreacting to good or bad news, or to simply equating a good investment with a well-run company irrespective of price. Regardless of the reason, some investors tend to get overly excited about stocks that have done very well, buy them up, and these stocks become overpriced.

Lal, Deepak

PD April 1994. **TI** From Plan to Market: Post War Evolution of Thought on Economic Transformation and Development. **AA** University of California, Los Angeles. **SR** University of California, Los Angeles Department of Economics Working Paper: 711; Department of Economics, University of California, Los Angeles, 2263 Bunche, Los Angeles, CA 90024. **PG** 23. **PR** \$5.00. **JE** A13, O11. **KW** Public Policy. Political Economy. Government.

AB This paper provides a birds eye view of the evolution of thought on public policies for economic development since the Second World War. It outlines the origins and effects of the postwar "dirigiste dogma", and how ideas and events undermined it, leading to the neoclassical resurgence of the 1970's. The origins of the debt crisis and its denouncement which led to economic liberalization is outlined. The new policy consensus of the late 1980's and 1990's is shown to be based on the revival of classical political economy which had been suppressed by neoclassical technocracy. It is shown how this revival provides a historically relevant framework for understanding the dynamics of economic reform. A final section examines various new and current areas of debate concerning good governance, poverty alleviation, and culture.

LaLonde, Robert J.

PD August 1994. **TI** Economic Impact of International Migration and the Economic Performance of Migrants. **AU** LaLonde, Robert J.; Topel, Robert H. **AA** University of Chicago. **SR** University of Chicago Center for the Study of the Economy and the State Working Paper: 96; Center for the Study of the Economy and the State University of Chicago, 1101 East 58th Street, Chicago, IL 60637. **PG** 105. **PR** \$3.00; make check payable to "The University of Chicago." **JE** J61, J11, J21. **KW** Migration. Population Composition. Labor Market.

AB This paper surveys the recent literature on international migration to developed countries, especially to Australia, Canada, and the United States. The first section of the paper documents the size of these migrations, assesses individuals' and families' incentives to immigrate, and examines receiving countries' efforts to restrict immigration rates and to alter the composition of their immigrant populations. Next, the paper surveys the empirical methods and findings pertaining to the effects of immigration on the labor market. The two principle issues that we examine are (i) immigrants' effects on employment and wages and (ii) the magnitude of intragenerational rates of assimilation in the receiving country. Finally, even though theory suggests that immigration raises natives' incomes, generous social welfare policies in the

receiving country could lead to the opposite outcome. Therefore, we conclude the paper by examining the effects of immigration on social welfare programs and tax revenues.

Landry, Rejean

PD January 1994. TI Politicians, Incentives and Policy Instruments: Theory and Evidence. AU Landry, Rejean; Pesant, Marc. AA Universite Laval. SR University of Western Ontario Papers in Political Economy: 44; Department of Economics, Social Science Centre, University of Western Ontario, London, Ontario, CANADA N6A 5C2. PG 28. PR no charge. JE D72, D73. KW Policy Instruments. Political Economy. Political Parties.

AB The studies on the policy determinants indicate that ideological differences between parties explain differences in the policy measures. These studies do not usually take into account the variations generated through the policy instruments employed to implement the policy measures. Our study indicates that the variations are higher between different policy instruments than between different political parties using the same instrument. Furthermore, our study provides evidence indicating that the variations concerning the use of the policy instruments depend more on the specificities of the policy domains than on differences between the political parties. However, data also indicate that the social democrat party demonstrates a higher propensity to base its policy measures on governmental institutional structures than to implement them through private firms and interest groups. Likewise, data indicate that the social democrat party demonstrates a higher propensity to use more "dirigist" policy instruments than the other party. On the other hand, data also clearly indicate that the party promoting market solutions, the Parti Liberal, is willing to base its measures on the recourse of governmental agencies and additional regulatory control in matters involving public goods such as environment and research and technology. When attention is turned to intensity of competition between the parties, our results indicate that competition is intense with respect to a few policy instruments and in a small number of policy domains.

Lang, Guenther

PD December 1993. TI Asset Bubbles, Pay-As-You-Go Systems and Dynamic Efficiency. AA University of Bonn. SR Universitat Bonn Sonderforschungsbereich 303 - Discussion Paper: A-425; Sonderforschungsbereich 303 an der Universitat Bonn, Adenauerallee 24-42, D-5300 Bonn 1, DEUTSCHLAND. PG 18. PR no charge. JE D91, E13, G11, H55, O12. KW Bubbles. Dynamic Efficiency. Ponzi Games.

AB This paper deals with the role of bubbles, having the same meaning as Ponzi games, for implementing efficient growth paths in a closed economy overlapping generations model. It is shown that the well-known arbitrage condition for bubbles, namely that they must yield the same return in equilibrium as real assets, is generically neither necessary nor sufficient for a Pareto-improvement compared to a perfect-foresight equilibrium without bubbles. A consequence of this fact is that bubbles, or Ponzi games, are not Pareto-improving generically, and therefore, it can be irrational for agents to be on the demand side of the market for bubbles, although a bubbly equilibrium could exist.

PD December 1993. TI Anticipation and the Time-Consistency of Fiscal Policy. AA University of Bonn.

SR Universitat Bonn Sonderforschungsbereich 303 - Discussion Paper: A-426; Sonderforschungsbereich 303 an der Universitat Bonn, Adenauerallee 24-42, D-5300 Bonn 1, DEUTSCHLAND. PG 33. PR no charge. JE C62, C72, C73, D31, H53. KW Game Theory. Markov-Perfect Equilibrium. Overlapping Generations.

AB This paper is concerned with the question of the existence of stationary Markov-perfect equilibrium in an overlapping generations growth model in the tradition of Diamond (1965), where in each period a government is in power, being interested in maximizing a social welfare function which consists of a weighted sum of utilities of those generations only who are alive in the given period. This setting causes conflicts of interest between two succeeding governments and implies time-inconsistency of optimal plans made by myopic planners. If these planners are non-myopic, however, they will take into account the reaction of their successors. We will therefore examine what game-theoretic concept can be applied, whether game equilibria exist, and what their properties are.

Lang, William W.

TI Information and Screening in Real Estate Finance: An Introduction. AU Nakamura, Leonard I.; Lang, William W.

Laurens, Bernard

PD May 1994. TI Refinance Instruments Lessons From Their Use in Some Industrialized Countries. AA International Monetary Fund. SR International Monetary Fund Working Paper: WP/94/51; International Monetary Fund, 700 19th Street, Washington, DC 20431. PG 20. PR not available. JE E51, E52, E58. KW Refinance Instruments. Central Banks. Monetary Policy. AB Many central banks around the world are gradually shifting from a system of direct controls towards the implementation of monetary policy through market-oriented instruments, including refinance facilities. This paper reviews the use of refinance instruments in a sample of industrialized countries, and discusses how central banks use them to influence short-term interest rates and to manage banks' reserves. Some lessons are suggested for their implementation in developing countries or economies in transition.

Lee, Lung-fei

PD April 1994. TI Simulated Maximum Likelihood Estimation of Dynamic Discrete Choice Statistical Models--Some Monte Carlo Results. AA University of Michigan. SR University of Michigan Center for Research on Economic and Social Theory (CREST) Working Paper: 94-06; Department of Economics, University of Michigan, Ann Arbor, Michigan 48109. PG 21. PR \$4.00; payable to the Department of Economics. JE C13, C15, C23, C25. KW Discrete Choice Models. Dynamic Models. Heterogeneity. Serial Correlation. Monte Carlo Studies.

AB This article reports Monte Carlo results on the simulated maximum likelihood estimation of discrete panel statistical models. Among them are Markov, Generalized Poly, Renewal, and Habit Persistence Models with or without unobserved heterogeneity and serially correlated disturbances. We investigate statistical properties and computational performance of simulated maximum likelihood methods and a bias-correction procedure. With a moderate number of simulation draws for the construction of the simulator and the

bias adjusted procedure, most of these complex dynamic models can be adequately estimated for panels with length up to 30. The Polya model and the Renewal model can be accurately estimated for panels with 50 periods.

Li, David

PD May 1994. TI The Behavior of the Chinese State Enterprises Under the Dual Influence of the Government and the Market. AA University of Michigan. SR University of Michigan Center for Research on Economic and Social Theory (CREST) Working Paper: 94-07; Department of Economics, University of Michigan, Ann Arbor, Michigan 48109. PG 24. PR \$4.00; payable to the Department of Economics. JE P50, P52, D21. KW Enterprise Reform. Rent-Seeking. Budget Constraint. Chinese Economy.

AB The paper examines the behavior of the Chinese state-owned enterprises after the reform. The focus is on the key issue of government-enterprise interaction. Based on theoretical analyses and empirical tests, I argue that despite facing strong profit incentives, many of the Chinese state-owned enterprises are still greatly influenced by the government and dependent on the government. They behave like rent-seekers when negotiating contracts with the government. At the same time, the government takes the opportunity to impose its objective onto the enterprise. After signing the contract, firms maximize market profit in making short-term production decisions. However, when it comes to final profit, they are virtually not accountable for financial losses. The implication is that the Chinese enterprise reform provides incentives for firms to pursue short-term efficiency, while long-term dynamic efficiency may not be as high.

Liang, Nellie

TI Is There a Pecking Order? Evidence From a Panel of IPO Firms. AU Helwege, Jean; Liang, Nellie.

Lo, Andrew W.

TI Models of the Term Structure of Interest Rates. AU Campbell, John Y.; Lo, Andrew W.; MacKinlay, A. Craig.

Loch, Christoph

PD April 1994. TI Time Competition is Capability Competition. AA INSEAD. SR INSEAD Working Papers: 94/30/TM; INSEAD, Boulevard de Constance, Fontainebleau, 77305 Cedex, FRANCE. PG 13. PR not available. JE C72, D21, D43, L13. KW Time Competition. Oligopoly. Firm Behavior.

AB This paper examines the nature of oligopolistic time competition equilibria in a market where customers are price-sensitive and impatient, and firms engage in quantity or price competition. Customers are all equally impatient and subscribe to the products, and firms are represented by M/G/1 queues. The first result shows that the oligopolists produce a higher quantity in equilibrium than a monopolist with the same facilities. Moreover, price competition causes more aggressive firm behavior (higher output) than quantity competition, but not the full welfare-maximizing amount predicted by the classical Bertrand price competition model without impatience. Second, as long as the firms have equal capabilities, the equilibrium is symmetric, that is, firms divide the market equally and charge the same prices. It is thus not possible that a competitive equilibrium with spontaneous differentiation into high and low

service niches arises, nor is it possible that one firm unilaterally chooses to concentrate on low volume/fast delivery in equilibrium. If a firm has superior capabilities, it will both capture a higher market share and charge a premium price. This is contrary to claims made in the recent popular literature on time competition.

PD April 1994. TI Incentive Compatible Equilibria in Markets With Time Competition. AA INSEAD. SR INSEAD Working Papers: 94/31/TM; INSEAD, Boulevard de Constance, Fontainebleau, 77305 Cedex, FRANCE. PG 15. PR not available. JE C72, D21, D43, L13. KW Time Competition. Incentive Contracts. Symmetric Equilibria.

AB This paper develops a model with two firms, represented as M/M/1 queues, that compete in a market with N segments of impatient customers, each segment with different waiting cost rates and price sensitivities. If both firms have the same processing capabilities, then the equilibrium will be symmetric on the firm side (i.e., both firms will have the same outputs and prices per customer segment and not choose different market niches). If the firms cannot identify which segment a customer belongs to when he/she joins, then the equilibrium generally breaks down, because customers will have an incentive to cheat and sign up under a wrong "type" in order to get preferential treatment and lower their total cost. The paper constructs an incentive-compatible contract that the firms can offer to the customers in order to re-establish the equilibrium. This is a generalization of the incentive-compatible pricing scheme for an internal service facility proposed by Mendelson and Whang (1990).

Loebl, M.

PD July 1991. TI Maximal Cuts. AA University of Bonn. SR Universitat Bonn Sonderforschungsbereich 303 - Discussion Paper: 91729-OR; Sonderforschungsbereich 303 an der Universitat Bonn, Adenauerallee 24-42, D-5300 Bonn 1, DEUTSCHLAND. PG 16. PR no charge. JE C63. KW Polynomial Algorithm. Local Search.

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

TI Complexity of Circuit Intersection in Graphs. AU Fraenkel, A.; Loebl, M.

Loeffler, Andras

TI Note on Gross Substitution in Financial Markets. AU Hens, Thorsten; Loeffler, Andras.

Lott, John R., Jr

TI Do Campaign Donations Alter How Politicians Vote? AU Bronars, Stephen G.; Lott, John R., Jr.

Lugaresi, Sergio

TI Pensions, Price Shocks, and Macroeconomic Stability in Transition Economies: Illustrations From Belarus. AU Ahmad, Ehtisham; Lugaresi, Sergio; Mourmouras, Alex; Schneider, Jean-Luc.

Lum, Yin-Fun

TI Operational Issues Related to the Functioning of Interbank Foreign Exchange Markets in Selected African Countries. AU McDonald, Calvin; Lum, Yin-Fun.

Machina, Mark J.

PD April 1994. TI Bayes Without Bernoulli: Simple Conditions for Probabilistically Sophisticated Choice. AU Machina, Mark J.; Schmeidler, David. AA Machina: University of California, San Diego. Schmeidler: Tel Aviv University and Ohio State University. SR Northwestern University Center for Mathematical Studies in Economics and Management Science Discussion Paper: 1088; Northwestern University, 2001 Sheridan Road, 3-014 Leverone Hall, Evanston, IL 60208-2014. PG 25. PR \$3.00 in U.S. and Canada; \$5.00 via international mail. JE C10, C11, B49. KW Bayesian. Nonexpected Utility. Lotteries. Replacement Axiom.

AB In 1963, Anscombe and Aumann demonstrated that the introduction of an objective randomizing device into the Savage setting of subjective uncertainty considerably simplified the derivation of subjective probability from a decision maker's preferences over uncertain bets. The purpose of this paper is to present a more general derivation of classical subjective probability in such a framework, which neither assumes nor implies that the individual's risk preferences necessarily conform to the expected utility principle. We argue that the essence of "Bayesian rationality" is the assignment, correct manipulation, and proper updating of subjective event probabilities when evaluating and comparing uncertain prospects, regardless of whether attitudes toward risk satisfy the expected utility property.

Mackie-Mason, Jeffrey K.

PD May 1994. TI Economic FAQ's About the Internet. AU MacKie-Mason, Jeffrey K.; Varian, Hal R. AA MacKie-Mason: University of Michigan and National Bureau of Economic Research. Varian: University of Michigan. SR University of Michigan Center for Research on Economic and Social Theory (CREST) Working Paper: 94-05; Department of Economics, University of Michigan, Ann Arbor, Michigan 48109. PG 17. PR \$4.00; payable to the Department of Economics. JE L63, L86, O38. KW Internet. Computer Networks.

AB This is a set of Frequently Asked Questions (and answers) about the economic, institutional, and technological structure of the Internet. We describe the current state of the Internet, discuss some of the pressing economic and regulatory problems, and speculate about future developments.

MacKinlay, A. Craig

TI Models of the Term Structure of Interest Rates. AU Campbell, John Y.; Lo, Andrew W.; MacKinlay, A. Craig.

Madigan, Brian

PD July 1994. TI An Overview of the Secondary Market for U.S. Treasury Securities in London and Tokyo. AU Madigan, Brian; Stehm, Jeff. AA Board of Governors of the Federal Reserve System. SR Board of Governors of the Federal Reserve System Finance and Economics Discussion Series: 94-17; 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 G15, F21, F31, E44. KW Treasury Securities. Off-Shore Markets. Cross-Border Securities.

AB This paper attempts to fill, at least partially, the existing information gaps on global trading in U.S. Treasury securities by describing the institutional arrangements and market practices in the two largest offshore markets for these securities--London and Tokyo. Interviews were conducted with selected market participants that focused on the institutional structure, size, and trading activity in these two market centers. From the interviews, it appears that the London and Tokyo markets for U.S. Treasury securities are much smaller in scale than the U.S. market. They are dominated by large U.S. dealers and inter-dealer brokers, but are more oriented toward customer trades than toward inter-dealer or financing transactions. The evolution and infrastructure of the off-shore Treasury securities market suggest that London and Tokyo could accommodate shifts in trading volume from New York if cost differences should favor these offshore markets. The potential for such shifts could have important implications for the development of regulatory and overnight policies aimed at the government securities market in the United States.

Makridakis, S.

PD 1994. TI Forecasting: Its Role and Value for Long-Term Planning and Strategy. AA INSEAD. SR INSEAD Working Papers: 94/27/TM; INSEAD, Boulevard de Constance, Fontainebleau, 77305 Cedex, FRANCE. PG 26. PR not available. JE C53, D21, L22, M11, M21. KW Forecasting. Corporate Strategy. Management.

AB The most important lesson we have learned in the field of forecasting over the last two decades is that models which best fit available data are not necessarily the most accurate ones in predicting beyond this data. In this paper I show that such a lesson has serious implications for other areas and notably management which is still based on the notion that future success can be attained by imitating "excellent" companies or best practices, that is past success or the equivalent of model fitting. In this paper I demonstrate that future success can only be achieved by correctly recognizing emerging changes in the business environment and accurately predicting future ones. Recognizing and predicting such changes brings forecasting to the forefront of management and ironically turns its biggest weakness (the fact that the best model fit does not guarantee the most accurate post-sample forecasts) into a much needed strength as recognizing corporate strategies, planning effectively, and in general succeeding in business.

Malz, Allan M.

PD December 1993. TI New Varieties of Foreign Currency Options. AA Federal Reserve Bank of New York. SR Federal Reserve Bank of New York Research Paper: 9331; Research Department - Room 901, Federal Reserve Bank of New York, 33 Liberty Street, New York, NY 10045. PG 78. PR no charge. JE G13, G15. KW Option Pricing. Risk Management.

AB Foreign currency options markets have grown rapidly in recent years. Not only has the volume of standard foreign exchange options risen, but many variants of these options, called exotics by market participants, have been introduced. Of these, the variants most heavily used in the markets are average-rate and barrier options. This paper is a survey of exotic foreign currency options. I examine average rate, barrier,

and lookback options in some detail, discussing their structure, valuation, and risk management and highlighting features that might expose market participants to sudden losses. An average-rate call option on a currency pays to the purchaser at expiry the difference between the exercise price and the average spot exchange rate during the life of the option, if the latter is greater. Barrier options are either created or canceled when the spot exchange rate reaches a certain level called the barrier. A lookback option pays the difference between the spot exchange rate at expiry and the lowest exchange rate reached during the life of the option.

Maruta, Toshimasa

PD May 1994. TI Information Structure on Maximal Consistent Sets. AA Northwestern University. SR Northwestern University Center for Mathematical Studies in Economics and Management Science Discussion Paper: 1090; Northwestern University, 2001 Sheridan Road, 3-014 Leverone Hall, Evanston, IL 60208-2014. PG 24. PR \$3.00 in U.S. and Canada; \$5.00 via international mail. JE D82, D83. KW Expressibility. Information Structure. State of the World.

AB In the information structure model, introduced by Aumann (1976), each state w of the world has been interpreted as a complete set of descriptions of the situation under study. In order to make this idea explicit, we construct states of the world as maximal consistent sets of a theory in an underlying formal language. In this framework, an expressibility problem becomes well-defined. The expressibility of possibility sets is interpreted as a necessary condition for each state w of the world to be a complete set of descriptions. Working in non-partitional setup, several characterizations for the expressibility condition are given. It is shown that if the possibility sets are expressible then minimal possibility sets exist and the number of them is finite. We also offer two characterizations of partitional information structures in terms of expressibility. One of them states that an information structure is partitional if and only if the meaning of "possibility" that we attach to possibility sets is expressible. The other implies that the common knowledge assumption of an information structure is a characterizing condition for a partitional information structure.

Masson, Paul R.

TI Credibility of Policies Versus Credibility of Policymakers. AU Drazen, Allan; Masson, Paul R.

Matsuyama, Kiminori

PD March 1994. TI Self-Defeating Regional Concentration. AU Matsuyama, Kiminori; Takahashi, Takaaki. AA Matsuyama: Northwestern University. Takahashi: University of Tokyo. SR Northwestern University Center for Mathematical Studies in Economics and Management Science Discussion Paper: 1086; Northwestern University, 2001 Sheridan Road, 3-014 Leverone Hall, Evanston, IL 60208-2014. PG 42. PR \$3.00 in U.S. and Canada; \$5.00 via international mail. JE D62, F12, O11, R13. KW Coordination Failure. Incomplete Markets. Labor Migration. Stability. Perfect Foresight Dynamics.

AB We present a two-region economy model in which inefficient concentration may occur. Individuals in this economy, even though they prefer to be evenly distributed across the two regions, concentrate into one region in their pursuit of better life. We characterize the conditions for such

self-defeating concentration. What is crucial is the coordination failure between the entry decision of service firms and the migration decision of individuals, generated by the incompleteness of markets or the lack of opportunity to signal demand and supply for potential services. The argument does not rely on price distortions, congestion externalities, or myopia in migration decisions.

Matyas, Laszlo

TI Robustness of Tests for Error Components Models to Nonnormality. AU Blanchard, Pierre; Matyas, Laszlo.

Matzkin, Rosa

TI Walrasian Comparative Statics. AU Brown, Donald; Matzkin, Rosa.

McCarthy, Jonathan

PD November 1993. TI Does the Household Balance Sheet Affect Durable Goods Expenditures? AA Federal Reserve Bank of New York. SR Federal Reserve Bank of New York Research Paper: 9329; Research Department - Room 901, Federal Reserve Bank of New York, 33 Liberty Street, New York, NY 10045. PG not available. PR no charge. JE E44. KW Durables Expenditures. Household Balance Sheet. Liquidity Hypothesis.

AB While the popular view is that the household balance sheet does affect durable goods expenditures, this has not been tested extensively since Mishkin (1976, 1977). This paper performs a number of tests using postwar aggregate data on expenditures and balance sheet variables. For the most part, balance sheet variables seem to have at best a small (and unstable) effect on durables expenditures. While I am still hesitant to answer the question in the title in the negative, the evidence presented here indicates that any relationship is more subtle than commonly believed.

McDiarmid, Colin

TI The Strongly Connected Components of 1-In, 1-Out. AU Reed, Bruce; McDiarmid, Colin.

PD June 1992. TI Non-Interfering Network Flows. AU McDiarmid, Colin; Reed, Bruce; Schrijver, A.; Shepherd, B. AA McDiarmid: University of Oxford. Reed and Shepherd: University of Bonn. Schrijver: Centre for Mathematics and Computer Science, The Netherlands. SR Universitat Bonn Sonderforschungsbereich 303 - Discussion Paper: 92762; Sonderforschungsbereich 303 an der Universitat Bonn, Adenauerallee 24-42, D-5300 Bonn 1, DEUTSCHLAND. PG 14. PR no charge. JE C44, C63. KW Network Flows. Polynomial Time Algorithm. Integral Flow.

AB We consider a generalization of the maximum flow problem where instead of bounding the amount of flow which passes through an edge, we bound the amount of flow passing "near" an edge. Nearness is specified by an extra distance parameter d . When $d = 0$ we get the usual network flow and $d = 1$ corresponds to bounding the flow through the nodes. A polynomial time algorithm is given to solve the max-flow and min-cost non-interfering flow problems for $d = 2$ and it is shown that the problems become NP-hard for d greater than or equal to 3. A polynomial time algorithm is outlined for arbitrary d when the underlying network is planar and for how an integral flow can be obtained from a fractional one in this

case. Finally, we describe relationships with induced circuits and perfect graphs, VLSI chip design, and the Hilbert basis problem.

PD August 1992. **TI** Almost Every Graph Can be Covered by Linear Forests. **AU** McDiarmid, Colin; Reed, Bruce. **AA** McDiarmid: Oxford University. Reed: University of Bonn. **SR** Universität Bonn Sonderforschungsbereich 303 - Discussion Paper: 92766; Sonderforschungsbereich 303 an der Universität Bonn, Adenauerallee 24-42, D-5300 Bonn 1, DEUTSCHLAND. **PG** 17. **PR** no charge. **JE** C44, C60. **KW** Linear Forests. Linear Arboricity. Graph Theory.

AB A linear forest is the union of a set of vertex disjoint paths. Akiyama, Exoo and Haray and independently Hilton have conjectured that the edges of every graph of maximum degree δ can be covered by $\lceil (\delta + 1) / 2 \rceil$ linear forests. We show that almost every graph can be covered with this number of linear forests.

McDonald, Calvin

PD April 1994. **TI** Operational Issues Related to the Functioning of Interbank Foreign Exchange Markets in Selected African Countries. **AU** McDonald, Calvin; Lum, Yin-Fun. **AA** International Monetary Fund. **SR** International Monetary Fund Working Paper: WP/94/48; International Monetary Fund, 700 19th Street, Washington, DC 20431. **PG** 21. **PR** not available. **JE** F31, F14, D82, L51. **KW** Foreign Exchange. Asymmetric Information. Efficiency.

AB This paper discusses the main operational issues involved in the implementation of interbank foreign exchange systems in selected African countries. The countries considered are The Gambia, Ghana, Kenya, Mozambique, Nigeria, and Sierra Leone. The paper finds that exchange rates in these markets tend to be determined through transactions between dealers and clients at the retail level, for the most part, rather than through wholesale interdealer transactions. Additionally, many factors continue to limit the full development of these markets. In particular, informational problems limiting "real time" quote, inadequate competition in the market, and insufficient regulations to reduce exchange rate risk and encourage "true" interdealer transactions. Despite these limitations, the markets studied have improved the efficiency of foreign exchange allocation and substantially narrowed exchange rate differentials between the official and parallel markets.

McLaughlin, Kenneth J.

PD March 1992. **TI** Rigid Wages? **AA** University of Rochester. **SR** University of Chicago Center for the Study of the Economy and the State Working Paper: 77.; Center for the Study of the Economy and the State University of Chicago, 1101 East 58th Street, Chicago, IL 60637. **PG** 36. **PR** \$3.00; make check payable to "The University of Chicago.". **JE** J31, C33, D13. **KW** Wage Rigidity. Individual Earnings. Income Distribution.

AB How rigid are wages? To answer this question, I empirically investigate the nature of wage rigidity at the individual level and compare the results with implications of a variety of approaches to wage rigidity. The evidence on the frequency of reported wage cuts in panel data reveals remarkable downward flexibility of real wages annually; even nominal wage cuts are not rare. With union and minimum-wage workers excluded, the distribution of wage growth is not skewed away from wage cuts. The high frequency of small

wage changes is inconsistent with menu cost models that censor small wage changes. The evidence supporting nominal wage rigidity is (a) a small spike at zero in the nominal wage growth distribution, and (b) incomplete indexing of nominal wage growth to unanticipated inflation.

TI Inter-Industry Mobility and the Cyclical Upgrading of Labor. **AU** Bils, Mark; McLaughlin, Kenneth J.

Mead, Lawrence M.

PD April 1994. **TI** Welfare Reform and Children. **AA** Harvard University. **SR** Harvard John F. Kennedy School of Government Faculty Research Working Paper Series: R94-11; John F. Kennedy School of Government, Harvard University, 79 John F. Kennedy Street, Cambridge, MA 02138. **PG** 25. **PR** no charge. **JE** H53, I31, I38, D13. **KW** Welfare. Single Mothers. Employment Incentives.

AB The original purpose of family welfare was to shield poor single mothers and their children from a need to support themselves. It was thought best for poor children that their mothers devote their full energies to childrearing, rather than working. Since the 1960's, however, national welfare policy has tended toward requiring welfare mothers to work. This change partly reflects growth in AFDC caseload and the fact that women not on welfare today are usually employed. While political leaders debate whether to make welfare more or less generous in economic terms, the public is more concerned to discipline the lifestyle of the recipients. Work requirements reflect this popular idea of welfare reform. The change also reflects the realization by experts that nonemployment by adults is the greatest cause of poverty among the working-aged. Voluntary approaches such as training programs and work incentives have shown less power to raise work levels than work requirements within welfare. Research also suggests that it is probably good on balance for disadvantaged children if their mother works and places them in child care. While intensive family intervention programs are sometimes seen as an alternative to work requirements, they too tend to assume that parents are involved in work programs. On all sides, the anti-work presumptions of family welfare have been reversed.

Mendoza, Enrique G.

TI Trade Reforms of Uncertain Duration and Real Uncertainty: A First Approximation. **AU** Calvo, Guillermo A.; Mendoza, Enrique G.

Mills, Leonard

TI Convergence and the U.S. States: A Time Series Analysis. **AU** Carlino, Gerald; Mills, Leonard.

Moldovanu, Benny

TI Multidimensional Mechanism Design for Auctions with Externalities. **AU** Stacchetti, Ennio; Moldovanu, Benny; Jehiel, Philippe.

Monteiro, P.

TI Existence of Equilibria With Infinitely Many Goods, Incomplete Markets and Bankruptcy. **AU** Araujo, A.; Monteiro, P.; Pascoa, M.

Moorthy, Vivek

PD August 1993. **TI** Efficiency Aspects of Exchange Rate Response to News: Evidence From U.S. Employment Data.

AA Federal Reserve Bank of New York. SR Federal Reserve Bank of New York Research Paper: 9326; Research Department - Room 901, Federal Reserve Bank of New York, 33 Liberty Street, New York, NY 10045. PG not available. PR no charge. JE F31, E43, G14. KW Exchange Rates. Employment News. Response Efficiency.

AB This paper investigates the impact of monthly employment news, a very important measure of real activity, on dollar/mark and dollar/yen exchange rates and U.S. interest rates during 1985-1992. The main conclusions are, first, that exchange rates display a large response to the unanticipated component of the news. Second, the response of short-term interest rates is consistent with and statistically much stronger than that of exchange rates, with a more accurate interpretation of the details of the report. Third, there is some evidence of delay in the exchange rate response after the news, although not strong enough to suggest a violation of market efficiency. A novel finding is that the mark's response is always greater than that of the yen.

Mount, Kenneth R.

PD March 1994. TI A Lower Bound on Computational Complexity Given by Revelation Mechanisms. AU Mount, Kenneth R.; Reiter, Stanley. AA Northwestern University. SR Northwestern University Center for Mathematical Studies in Economics and Management Science Discussion Paper: 1085; Northwestern University, 2001 Sheridan Road, 3-014 Leverone Hall, Evanston, IL 60208-2014. PG 43. PR \$3.00 in U.S. and Canada; \$5.00 via international mail. JE C61, C63. KW Computational Complexity. Mechanism Design. Computation Costs.

AB This paper establishes an elementary lower bound on the computational complexity of smooth functions between Euclidean spaces. The main motivation for this comes from mechanism design theory. A typical mechanism design problem consists of a set of possible environments, a goal function, and a set of mechanisms from which choice is to be made. An environment includes specification of the possible characteristics of agents, such as possible actions, preferences and resource endowments, and a space of possible outcomes, such as trades among the agents, or allocations. A goal function (correspondence) associates a desired outcome, or set of them, to each possible environment. A theory of design of economic mechanisms must eventually take into account the costs of setting up and operating the mechanisms. These costs include informational costs and incentive costs. Important informational costs include those due to communication requirements and those due to the computations that are required by the mechanism; incentive costs include monitoring and enforcement costs, and deductions from first-best outcomes arising from incentive problems. In this paper we focus on the complexity of computational tasks, because complexity, along with prices of computational resources, determines computation costs.

Mourmouras, Alex

TI Pensions, Price Shocks, and Macroeconomic Stability in Transition Economies: Illustrations From Belarus. AU Ahmad, Ehtisham; Lugaresi, Sergio; Mourmouras, Alex; Schneider, Jean-Luc.

Mukherjee, A. S.

PD 1994. TI The Impact of Knowledge on Quality.

AU Mukherjee, A. S.; Van Wassenhove, L. N. AA INSEAD. SR INSEAD Working Papers: 94/26/TM; INSEAD, Boulevard de Constance, Fontainebleau, 77305 Cedex, FRANCE. PG 24. PR not available. JE C14, D43, L13, M21. KW Competition. Principal Component Analysis. Knowledge.

AB In recent years, several experts have suggested that two of the increasingly critical bases for corporate competition are (i) knowledge and information and (ii) the relentless pursuit of improved quality. We present results from an on-going field research effort directed at exploring the links between these two concepts. We use principal component analysis to study the output of 37 tightly structured total quality control projects executed by an European firm (N.V. Bekaert, S.A. of Belgium) during the 1980's. We identify and describe two latent characteristics of the output: experiential knowledge and formal knowledge. We show that these dimensions also describe the output of 15 less structured TQC projects executed by Bekaert. We then use ordinary least square regression to assess the impact of these dimensions on two project level performance indicators--goal achievement and the ability to make consistent changes in quality levels. This analysis indicates that as projects become less structured, the importance of the formal knowledge increases. This result, which was strongly supported by our field research, suggests that managers should explicitly consider the nature of knowledge they need to improve quality.

Mulligan, Casey B.

TI On the Endogenous Determination of Time Preference. AU Becker, Gary S.; Mulligan, Casey B.

Murota, Kazuo

TI A Minimax Theorem and a Dulmage-Mendelsohn Type Decomposition for a Class of Generic Partitioned Matrices. AU Iwata, Satoru; Murota, Kazuo.

TI A Theorem on the Principal Structure for Independent Matchings. AU Iwata, Satoru; Murota, Kazuo.

Murphy, Kevin M.

TI The Division of Labor, Coordination Costs, and Knowledge. AU Becker, Gary S.; Murphy, Kevin M.

Musiela, Marek

PD November 1993. TI Different Dynamical Specifications of the Term Structure of Interest Rates and Their Implications. AU Musiela, Marek; Sondermann, Dieter. AA Musiela: University of New South Wales. Sondermann: University of Bonn. SR Universitat Bonn Sonderforschungsbereich 303 - Discussion Paper: B-260; Sonderforschungsbereich 303 an der Universitat Bonn, Adenauerallee 24-42, D-5300 Bonn 1, DEUTSCHLAND. PG 10. PR no charge. JE C44, E43, G12. KW Term Structure. Expectation Hypotheses. Stochastic Equations.

AB Alternative ways of introducing uncertainty to the term structure of interest rates are considered. They correspond to the different expectation hypotheses. The dynamics of the term structure is analyzed in a convenient framework of stochastic equations in infinite dimensions.

Myerson, Roger B.

TI Bargaining, Veto Power, and Legislative Committees.

AU Diermeier, Daniel; Myerson, Roger B.

Nagel, Rosemarie

PD April 1993. TI Experimental Results on Interactive Competitive Guessing. AA University of Bonn. SR Universitat Bonn Sonderforschungsbereich 303 - Discussion Paper: B-236; Sonderforschungsbereich 303 an der Universitat Bonn, Adenauerallee 24-42, D-5300 Bonn 1, DEUTSCHLAND. PG 26. PR no charge. JE C72, C78, D84. KW Game Theory. Equilibrium. Competitive Guessing.

AB A large number of players have to state simultaneously a number in the closed interval $[0,100]$. The winner is the player whose stated number is closest to the p -fold average of all chosen numbers, where p is a fixed and commonly known positive parameter. The game is repeated for several rounds. In the first round most of the stated numbers are far away from an equilibrium point. In the succeeding rounds, they approach an equilibrium or converge to it. We propose a simple theory of first round behavior that involves types of players who use finite steps of reasoning. As an explanation of behavior over time, a simple qualitative adaption process based on individual experience is suggested.

Nakamura, Leonard I.

PD July 1994. TI Information and Screening in Real Estate Finance: An Introduction. AU Nakamura, Leonard I.; Lang, William W. AA Nakamura: Federal Reserve Bank of Philadelphia. Lang: Office of the Comptroller of the Currency. SR Federal Reserve Bank of Philadelphia Research Working Paper: 94-15; Working Papers, Department of Research, Federal Reserve Bank of Philadelphia, 10 Independence Mall, Philadelphia, PA 19106. PG 10. PR no charge except overseas airmail, \$2.00; checks/money orders in U.S. funds payable to Federal Reserve Bank of Philadelphia. JE D81, G21. KW Credit Screening. Information. Residential Mortgages.

AB The paper is being published at a time when the empirical resources for testing information-based theories have been greatly enriched by the universe of residential mortgage screening decisions revealed under the 1990 amendments to the Home Mortgage Disclosure Act. Residential mortgage screening decisions are intimately tied to various information flows. These screening decisions come about only after prior search and prescreening; they depend on information flows, on borrower creditworthiness, and on home resale value; and they must look ahead to payments, prepayments, and default. By deepening our understanding of these information flows, the studies in this issue have important implications not only for real estate finance and economics, but also for macroeconomics, information theory, and economic analysis of racial discrimination.

Nathan, Alli

TI Scale Economies and Cost Complementarities in Commercial Banks: On- and Off-Balance-Sheet Activities. AU Jagtiani, Julapa; Nathan, Alli; Sick, Gordon.

Neal, Derek

PD August 1994. TI The Effect of Catholic Secondary Schooling on Educational Attainment. AA University of Chicago. SR University of Chicago Center for the Study of the Economy and the State Working Paper: 95; Center for the

Study of the Economy and the State University of Chicago, 1101 East 58th Street, Chicago, IL 60637. PG 45. PR \$3.00; make check payable to "The University of Chicago." JE I28, J38. KW Education. Catholic School. Selection Bias. Graduation Rate.

AB This paper provides a detailed analysis of the effect of Catholic secondary schooling on high-school graduation rates and also examines Catholic schooling's effect on college graduation rates and future wages. The work improves upon previous attempts to control for selection bias by employing new data sources. I use data from the National Catholic Educational Association and the Survey of Churches and Church Membership to construct measures of access to Catholic secondary schooling for each county in the United States and then merge this information with individual records from the National Longitudinal Survey of Youth. These measures of access provide potential instruments for Catholic school attendance. The results indicate that Catholic secondary schools are geographically concentrated in urban areas and that Catholic schooling greatly increases educational attainment among urban minorities. The gains from Catholic schooling are modest for urban whites and negligible for suburban students. Analyses restricted to the sample of public school students indicate that urban minorities gain the most from Catholic schooling because they face the worst public school alternatives.

Neely, Christopher J.

PD April 1994. TI A Reconsideration of the Properties of the Generalized Method of Moments in Asset Pricing Models. AA Federal Reserve Bank of St. Louis. SR Federal Reserve Bank of St. Louis Working Paper: 94-010A; Research and Public Information Division, Federal Reserve Bank of St. Louis, P.O. Box 442, St. Louis, MO 63166. PG 40. PR no charge. JE C52, E44, E47, G12. KW Generalized Method of Moments. Monte Carlo Simulation. Markov Chain.

AB This paper tests the small sample properties of Hansen's (1982) Generalized Method of Moments (GMM) on simulated data from a consumption based asset pricing model. In finite samples the estimates of the coefficient of relative risk aversion and the discount parameter are strongly biased due to the unusual shape of the GMM criterion function for the model and the GMM test statistics perform poorly. In fact, the finite sample properties of the test statistics suggest the rejection results achieved by applying GMM to representative agent asset pricing models with real data (Hansen and Singleton 1982) must be viewed with some circumspection.

Neeman, Zvika

TI Strategic Ambiguity in Electoral Competition. AU Aragones, Enriqueta; Neeman, Zvika.

Nesetril, Jaroslav

PD February 1991. TI Mathematics and Art. AA University of Bonn. SR Universitat Bonn Sonderforschungsbereich 303 - Discussion Paper: 91693-OR; Sonderforschungsbereich 303 an der Universitat Bonn, Adenauerallee 24-42, D-5300 Bonn 1, DEUTSCHLAND. PG 32. PR no charge. JE C00. KW Mathematics. Art.

AB Our intention in this essay has been to draw some parallels between art and mathematics from the creative point of view. We have tried to stress some similarities in the creative

processes of both areas. Admittedly, by so doing we neglected the more common approach of simply comparing the results of these processes. But the few illustrations which we included are complemented by many formal similarities of art and chip design in the rest of this catalogue.

Nett, Lorenz

PD not available. TI Subventionszusagen der Treuhandanstalt als ein Signal. AA University of Mainz. SR Universitat Bonn Sonderforschungsbereich 303 - Discussion Paper: A-404; Sonderforschungsbereich 303 an der Universitat Bonn, Adenauerallee 24-42, D-5300 Bonn 1, DEUTSCHLAND. PG 7. PR no charge. JE L33. KW Privatization. East Germany. Game Theory. AB This paper is written in a language other than English.

Neven, Damien

PD July 1994. TI Competition in the European Banking Industry: An Aggregate Structural Model of Competition. AU Neven, Damien; Roller, Lars-Hendrik. AA Neven: University of Lausanne and Centre for Economic Policy Research. Roller: INSEAD and Centre for Economic Policy Research. SR Universite de Lausanne Cahiers de Recherches Economiques: 9410; Departement d'Econometrie et d'Economie Politique, Univerite de Lausanne, BFSH1 - Dorigny, CH-1015 Lausanne, SWITZERLAND. PG 22. PR no charge. JE G21, G28, L13, L51, L84. KW Banking. Market Power. Regulation.

AB The objective of this study is to analyze competition in the European banking industry in light of the different regulatory frameworks to which banks in various countries are exposed. We focus on the provision of mortgages to households and loans to the corporate sectors in seven European countries. We develop an aggregate, multiproduct model for the European Banking industry and estimate the structural model econometrically with data on demand and costs for the period 1981-1989. In general, we reject non-cooperative Nash behavior in favor of more collusive cartel-like conduct. In particular, we find support for the hypothesis that the corporate market is more competitive than the household market. We observe that the market for mortgages is substantially less competitive in those countries which have specialized institutions for the provision of these loans. We find that conduct in the market for loans to the corporate sector varies a great deal across countries and that lightly regulated countries are not necessarily those where competition is toughest. Finally, we find no evidence that the degree of coordination among banks has been reduced over the period.

Niehaus, Gregg

PD March 1992. TI Damage Schedules and Their Potential in Mitigating Adverse Selection in the Products Liability System. AU Niehaus, Gregg; Snyder, Edward A. AA Niehaus: University of South Carolina. Snyder: University of Chicago. SR University of Chicago Center for the Study of the Economy and the State Working Paper: 76; Center for the Study of the Economy and the State University of Chicago, 1101 East 58th Street, Chicago, IL 60637. PG 21. PR \$3.00; make check payable to "The University of Chicago." JE K13, D11, D21, D82. KW Product Liability. Risk. Adverse Selection.

AB Under current products liability law, whereby producers of goods and services may be held liable for losses from the use

of their products, consumers acquire an implicit insurance contract with the products they purchase. When sellers cannot discriminate ex ante among risk types, all consumers pay the same price for the insurance component of the product bundle. The insurance coverage and the value of the insurance, however, may differ considerably among potential consumers, in part because product liability awards are based on victim-specific characteristics. Compensation for lost income, for example, varies by profession. In addition, Viscusi (1988) finds that both the probability of awards for pain and suffering being granted and their size depend on individual characteristics. Can the products liability system be improved? In contrast to the substantial literature analyzing the effects of alternative liability rules, in this paper we take the existing products liability framework as given and investigate compensation schemes, such as damage schedules, that would reduce the variance in products liability awards. The underlying premise—that solutions to adverse selection problems may lie in reducing the variance of expected losses in a risk pool—is not novel and derives from fundamental insurance premia more attractive to lower risk customers who would otherwise select out. Priest (1987) argues as well that a variety of tort reforms including caps on damages and the abrogation of the doctrine of joint and several liability can improve the market for products liability insurance by reducing the variance in producer risk pools. The issue of whether damage schedules mitigate the adverse selection problem among potential consumers of a given product, however, has not been analyzed. One of our objectives is to provide further insights into the merits of recent proposals to establish schedules or cap non-economic losses. The American Law Institute, for example, recommends that juries be provided a schedule of dollar amounts for specific injuries when determining awards and that limits be placed on awards for pain and suffering.

Nilles, Delia

PD June 1994. TI Emploi et Population Active Occupee. AA Universite de Lausanne. SR Universite de Lausanne Cahiers de Recherches Economiques: 9408; Departement d'Econometrie et d'Economie Politique, Univerite de Lausanne, BFSH1 - Dorigny, CH-1015 Lausanne, SWITZERLAND. PG 21. PR no charge. JE E24, J21. KW not available.

AB This paper is written in a language other than English.

Noeldeke, Georg

PD February 1994. TI Learning to Signal in Markets. AU Noeldeke, Georg; Samuelson, Larry. AA Noeldeke: Princeton University. Samuelson: University of Wisconsin. SR Universitat Bonn Sonderforschungsbereich 303 - Discussion Paper: B-271; Sonderforschungsbereich 303 an der Universitat Bonn, Adenauerallee 24-42, D-5300 Bonn 1, DEUTSCHLAND. PG 45. PR no charge. JE C72, D82, D83. KW Signalling Games. Learning. Game Theory.

AB We formulate a dynamic learning-and-adjustment model of a market in which sellers choose signals that potentially reveal their types. If the dynamic process selects a unique limiting outcome, then that outcome must be an undefeated equilibrium; though to be undefeated does not suffice to be the sole limiting outcome. If a Riley outcome exists that provides "high" type sellers with a higher utility than any other equilibrium outcome, then that outcome is the unique limiting outcome of our model. In the absence of a Riley outcome, or if

high type workers obtain higher utility in a pooling equilibrium than in the Riley outcome, a unique limit outcome will only emerge under very stringent conditions. If these conditions fail, the market will cycle between various equilibria and, possibly, nonequilibrium outcomes.

PD March 1994. **TI** Debt as an Option to Own in the Theory of Ownership Rights. **AU** Noeldeke, Georg; Schmidt, Klaus. **AA** Noeldeke: Princeton University. Schmidt: University of Bonn. **SR** Universitat Bonn Sonderforschungsbereich 303 - Discussion Paper: A-440; Sonderforschungsbereich 303 an der Universitat Bonn, Adenauerallee 24-42, D-5300 Bonn 1, DEUTSCHLAND. **PG** 20. **PR** no charge. **JE** D23, G32, L22. **KW** Debt. Ownership Rights. Incomplete Contracts.

AB In a seminal paper, Grossman and Hart (1986) developed a theory of the optimal allocation of ownership rights based on incomplete contracts. In their model the only contracts feasible prior to investment decisions allocate ownership rights over physical assets. We investigate the role of a collateralized debt contract, which assigns ownership rights on an asset conditional on the repayment of the debt, in this setting. By allowing implicit conditioning on investments such a contract yields an efficiency improvement over the contracts considered by Grossman and Hart. In particular, if only one party has to invest, then an optimally designed debt contract implements the first best. Furthermore, the debt will be repayed in equilibrium. Our work departs from most analyses of debt contracts by emphasizing that debt contracts have an incentive effect on the creditor's investment decision. The key effect is that the creditor's relationship-specific investment affects the value of the debtor's ownership right and thus whether he defaults on his debt.

PD April 1994. **TI** Testing Financial Market Equilibrium Under Asymmetric Information: A Comment. **AA** Princeton University. **SR** Universitat Bonn Sonderforschungsbereich 303 - Discussion Paper: A-443; Sonderforschungsbereich 303 an der Universitat Bonn, Adenauerallee 24-42, D-5300 Bonn 1, DEUTSCHLAND. **PG** 15. **PR** no charge. **JE** D82, G14. **KW** Financial Markets. Rational Expectations. Asymmetric Information.

AB In a recent paper Lang, Litzengerger, and Madrigal (1992) (henceforth LLM) use data on volume, prices, and individual traders' forecasts of earnings to test theories of financial market equilibrium under asymmetric information. Their main conclusion is that "empirical results strongly support the noisy rational expectations hypothesis." This note shows that (a) the parameter restrictions tested by LLM are not implied by their theoretical model under noisy rational expectations and (b) the estimation results reported in LLM provide strong evidence against the noisy rational expectations hypothesis and all other hypotheses they consider.

O'Leary, Brendan

PD March 1994. **TI** On the Nature of Nationalism: An Appraisal of Ernest Gellner's Writings on Nationalism. **AA** London School of Economics. **SR** University of Western Ontario Papers in Political Economy: 47; Department of Economics, Social Science Centre, University of Western Ontario, London, Ontario, CANADA N6A 5C2. **PG** 34. **PR** no charge. **JE** H10. **KW** Nationalism.

AB Gellner's explanation of nationalism does not appease pious conservatives in the least. Indeed his writings on

nationalism are best interpreted as a sustained criticism of a very pious Oakeshottian conservative, the late Elie Kedourie, Gellner's former colleague at the LSE. However, Gellner's explanation of nationalism is intended to be partially reassuring for secular liberals, and one of the questions I wish to address is whether he provides the right kind of reassurances. This essay focuses on scrutinizing the core arguments of Gellner's *Thought and Change* (1964) and *Nations and Nationalism* (1983).

Onitsuka, Yusuke

PD May 1994. **TI** Supply Pressure and the Export-Import Performance in the Japan-U.S. Bilateral Trade. **AA** International Monetary Fund. **SR** International Monetary Fund Working Paper: WP/94/53; International Monetary Fund, 700 19th Street, Washington, DC 20431. **PG** 14. **PR** not available. **JE** F14, C31, F23. **KW** Exports. International Trade. Supply Pressure.

AB The paper examines the effects of the supply pressure of the exports in the Japan-U.S. bilateral trade. A simultaneous equation approach with a Almon lag structure is adopted. Two factors of supply pressure (i.e., full-employment capacity and inventory) are specified, and positively-sloped export supply functions with these two shift factors are successfully estimated. While capacity is positively correlated with exports, the inventory is often negatively correlated. It is also shown that export supply pressure is much stronger in Japan's exports than in the U.S. lag structure spreading over twelve quarters.

Orphanides, Athanasios

TI Leverage as a State Variable for Employment, Inventory Accumulation, and Fixed Investment. **AU** Calomiris, Charles W.; Orphanides, Athanasios; Sharpe, Steven A.

PD August 1994. **TI** Optimal Reform Postponement. **AA** Board of Governors of the Federal Reserve System. **SR** Board of Governors of the Federal Reserve System Finance and Economics Discussion Series: 94-25; Board of Governors of the Federal Reserve System, C/O Sharon Kozicki, Mail Stop 61, Federal Reserve Board, Washington, DC 20551. **PG** 10. **PR** no charge. **JE** E31, F31, F35. **KW** Inflation. Stabilization. External Aid.

AB The postponement of a reform program recognized to be necessary to control inflation is examined as a decision in an optimal control framework. With a deteriorating and increasingly costlier inflation, it is found that reforms are both more likely to be implemented and more likely to fail as inflation rises. Factors suggesting improved future conditions for a reform, such as the possibility of external aid, induce further postponement. Indexation, and any other measures which reduce the current costs of inaction have the same effect.

Pascoa, M.

TI Existence of Equilibria With Infinitely Many Goods, Incomplete Markets and Bankruptcy. **AU** Araujo, A.; Monteiro, P.; Pascoa, M.

Pashigian, B. Peter

PD October 1992. **TI** Why Has the Pricing of New Cars Changed? **AU** Pashigian, B. Peter; Bowen, Brian. **AA** University of Chicago. **SR** University of Chicago Center for the Study of the Economy and the State Working Paper: 82; Center for the Study of the Economy and the State

University of Chicago, 1101 East 58th Street, Chicago, IL 60637. PG 23. PR \$3.00; make check payable to "The University of Chicago." JE L62, D43, D11. KW Automobile Prices. Seasonal Prices.

AB While writing this paper, we asked economists at different universities and graduate students at the University of Chicago to estimate the percentage difference between the price of a new auto at the end and the beginning of the model year. Our scientific survey found little agreement but the mean of the estimates exceeded 10 percent. This is an accurate estimate for the early fifties but grossly overestimates the decline of only two to three percentage points in recent years. For an automobile that sells for \$16,000 at the beginning of the model year, the savings for the patient buyer appear to be around \$320. Most participants expressed surprise at the small difference and some thought we were pulling their leg. However, the seasonal variation in retail automobile prices has declined appreciably over time. Another interesting and, we believe, related change is the decrease in the depreciation rate of used automobiles. In this paper we try to explain why these two changes have occurred. Our results indicate the vanishing seasonal in retail automobile prices is not due to a disappearing seasonal in inventories. Rather, our results indicate the declining importance of the annual model change is the primary reason for the disappearing seasonal in retail car prices and the decline in the depreciation rate. We take the analysis a step further and suggest that the declining frequency and the magnitude of the annual model change are cost driven since the cost of introducing a model change has increased over time. Our evidence suggests that the American automobile has become less of a fashion product over time. Our results suggest that the seasonal pattern of prices is affected by economic factors. In the apparel and auto industry changes in the cost of producing product variety has changed the type of product produced and altered the seasonal pattern of prices.

Passmore, Wayne

PD July 1994. TI Optimal Bank Portfolios and the Credit Crunch. AU Passmore, Wayne; Sharpe, Steven A. AA Board of Governors of the Federal Reserve System. SR Board of Governors of the Federal Reserve System Finance and Economics Discussion Series: 94-19; Board of Governors of the Federal Reserve System, C/O Sharon Kozicki, Mail Stop 61, Federal Reserve Board, Washington, DC 20551. PG 28. PR no charge. JE G21, E51. KW Credit Crunch. Bank Capital. Regulatory Capital.

AB We offer a simple theoretical framework for analyzing the effects of economic shocks and regulatory shifts on the balance sheet of a profit-maximizing bank. The allocation of assets between loans and securities as well as the mix of funding between deposits and capital are both influenced by many factors; among these are capital requirements, bankruptcy costs, security returns, variance of loan returns, competitiveness of loan markets, and the value of securities in reducing the risks of illiquidity and undercapitalization. Our model provides a framework for interpreting recent empirical studies of the credit crunch and for designing future studies of the effect of capital regulations on bank lending patterns. Among other results, our model predicts that raising capital requirements on loans results in a decline in capital in the banking sector; in addition, it is shown that the resultant decline in bank lending may be most pronounced at highly capitalized banks.

Patel, Urjit R.

TI Indian Public Finance in the 1990's: Challenges and Prospects. AU Buiter, Willem H.; Patel, Urjit R.

Peck, James

TI Costly Information Acquisition, Price Volatility, and Efficiency in Competitive Market Games. AU Jackson, Matthew O.; Peck, James.

Peltzman, Sam

PD June 1992. TI The Political Economy of the Decline of American Public Education. AA University of Chicago. SR University of Chicago Center for the Study of the Economy and the State Working Paper: 78; Center for the Study of the Economy and the State University of Chicago, 1101 East 58th Street, Chicago, IL 60637. PG 61. PR \$3.00; make check payable to "The University of Chicago." JE I21, I28. KW Public Schools. Student Performance. Pressure Groups.

AB Current concern about the performance of American public schools is, in part, the legacy of past trends. From the mid 1960's to about 1980 virtually all measures of school performance deteriorated significantly. Evidence for a post-1980 improvement is mixed, but at best only part of the earlier decline has been retraced. This paper tries to contribute to understanding of the pre 1980's decline by analyzing the role of some political economic forces operating on public schools. The onset of the decline coincides with substantial changes in the strength of teacher organizations, in the sources of funds for public schools, and in pressures for desegregation. I analyze the effect of these changes on a partial measure of the change in school performance across states from 1971 (the earliest available data) to 1981 and from 1981 to 1989. The measure is the change in scores on college entrance exams (which are taken by just under half of 17 year olds.) I find that school performance deteriorated more in states where teacher unionization went furthest, but some of the negative impact is delayed until the 1980's when the deterioration had ceased nationally. School performance also deteriorated more in states which moved earliest to shift the financing of public schools from local school boards to state government. School performance was not adversely affected by pressure for desegregation. The 1960's and 1970's were also marked by an unprecedented increase in the employment of college educated workers. This might have been expected to increase the political pressure by employers for improved quality of college bound high school graduates. I find, counterintuitively, circumstantial evidence that the reverse may have occurred. In states where the politically significant industries increased employment of college educated workers most, the pre 1980 decline in school performance was largest. That tendency weakened but did not disappear in the 1980's.

TI The Social Costs of Regulation and Lack of Competition in Sweden. AU Folster, Stefan; Peltzman, Sam.

Perraudin, William R. M.

PD April 1994. TI A Framework for the Analysis of Pension and Unemployment Benefit Reform in Poland. AA International Monetary Fund. SR International Monetary Fund Working Paper: WP/94/40; International Monetary Fund, 700 19th Street, Washington, DC 20431. PG 19. PR not available. JE H55, J26, J65.

KW Pension Reform. Unemployment Benefits. Poland.

AB This paper examines the impacts on welfare, savings, labor supply, and the government budget of several possible reforms of the Polish pension and unemployment benefit systems. The framework of analysis is a life cycle simulation model of household consumption, labor supply, and retirement decisions. The paper builds on past work by Perraudin and Pujol (1992). The present study focusses on the length of averaging periods in pension benefit calculations, measures to offset incentives to early retirement, and interactions between pension and unemployment benefit systems.

Persico, Nicola

TI A Chaotic Map Arising in the Theory of Endogenous Growth. **AU** Boldrin, Michele; Persico, Nicola.

Pesant, Marc

TI Politicians, Incentives and Policy Instruments: Theory and Evidence. **AU** Landry, Rejean; Pesant, Marc.

Phlips, Louis

TI Exchange Rates and Oligopoly. **AU** Hens, Thorsten; Kirman, Alan; Phlips, Louis.

Piccione, Michele

PD August 1994. **TI** On the Interpretation of Decision Problems With Imperfect Recall. **AU** Piccione, Michele; Rubinstein, Ariel. **AA** Piccione: University of British Columbia. Rubinstein: Tel Aviv University. **SR** Tel Aviv Sackler Institute for Economic Studies Working Paper: 24/94; Department of Economics, Tel Aviv University, Ramat Aviv 69978, ISRAEL. **PG** 35. **PR** no charge. **JE** C72, D11, D81, D83. **KW** Imperfect Recall. Decision Problems. Paradox.

AB In this paper it is argued that extensive decision problems (extensive games with a single player) with imperfect recall suffer from major ambiguities in the interpretation of information sets and strategies. This indeterminacy allows for different kinds of analysis. We address the following issues: randomization at information sets, consistency of beliefs and time consistency of optimal plans, the multi-selves approach to decision making, and methods of inference of past choices. We illustrate our discussion through an example that we call the "absent-minded driver paradox".

Piketty, Thomas

PD April 1994. **TI** Social Mobility and Redistributive Politics. **AA** Massachusetts Institute of Technology. **SR** Massachusetts Institute of Technology Department of Economics Working Paper: 94-15; Department of Economics, Massachusetts Institute of Technology, Cambridge, MA 02139. **PG** 33. **PR** \$8.00 Domestic; \$10.00 Overseas; \$5.00 Student. **JE** D72, D83, D63. **KW** Social Mobility. Learning. Distributive Justice.

AB Assume agents differ in their beliefs concerning the relative importance of individual effort and social rigidities in shaping individual achievements, so that they trade off differently the social benefits of equalizing opportunities with the incentive costs of taxation (just as economists). Through their individual mobility experience they are exposed to different signals regarding these structural parameters, and in the long-run "left-wing dynasties" believing less in individual effort and voting for more redistribution coexist with "right-

wing dynasties". Thus we are able to explain (1) why rich and poor claim the same abstract principles of distributive justice but vote differently, (2) why social origins and not only current income play a crucial but (mostly) indirect role in shaping one's political attitudes, (3) how persistent differences in popular beliefs about social mobility and the need for redistribution can sustain although the underlying, "true" mobility rates are essentially the same (U.S. vs. Europe), (4) why individual countries tend to be politically homogeneous.

Poddar, Sougata

TI Network Structure and Entry, In the Deregulated Airline Industry. **AU** Berechman, Joseph; Poddar, Sougata; Shy, Oz.

Poljak, Svatopluk

PD May 1992. **TI** Checking Robust Nonsingularity is NP-Hard. **AU** Poljak, Svatopluk; Rhon, Jiri. **AA** Charles University, Praha. **SR** Universitat Bonn Sonderforschungsbereich 303 - Discussion Paper: 92758; Sonderforschungsbereich 303 an der Universitat Bonn, Adenauerallee 24-42, D-5300 Bonn 1, DEUTSCHLAND. **PG** 9. **PR** no charge. **JE** C44, C63. **KW** Robust Control. Computational Complexity.

AB We consider here the following problem: Given $k + 1$ matrices each of size n by n and with rational entries, decide if the weighted sum of the matrices is nonsingular for all possible choices of weights which are real numbers in the interval $[0,1]$. We show that this question, which is closely related to the robust stability problem, is NP-hard. The proof relies on the new concept of radius of nonsingularity of a square matrix and in the relationship between computing this radius and a graph-theoretic problem.

TI Eulerian Trails Through a Set of Terminals in Specific, Unique and All Orders. **AU** Bang-Jensen, Jorgen; Poljak, Svatopluk.

PD July 1992. **TI** The Expected Relative Error of the Polyhedral Approximation of the Max-Cut Problem. **AU** Poljak, Svatopluk; Tuza, Zsolt. **AA** Poljak: University of Bonn. Tuza: Hungarian Academy of Sciences. **SR** Universitat Bonn Sonderforschungsbereich 303 - Discussion Paper: 92757; Sonderforschungsbereich 303 an der Universitat Bonn, Adenauerallee 24-42, D-5300 Bonn 1, DEUTSCHLAND. **PG** 9. **PR** no charge. **JE** C44. **KW** Maximum Cut. Polyhedral Relaxation. Random Graph.

AB We study the expected relative error of a linear relaxation of the max-cut problem in the random graph.

Poterba, James

TI Tax Incentives and the Decision to Purchase Health Insurance: Evidence From the Self-Employed. **AU** Gruber, Jonathan; Poterba, James.

Proemel, Hans-Juergen

PD July 1993. **TI** Probabilistische Argumente und Algorithmische Probleme in der Diskreten Mathematik. **AA** University of Bonn. **SR** Universitat Bonn Sonderforschungsbereich 303 - Discussion Paper: 93804; Sonderforschungsbereich 303 an der Universitat Bonn, Adenauerallee 24-42, D-5300 Bonn 1, DEUTSCHLAND. **PG** 21. **PR** no charge. **JE** C44. **KW** Combinatorial Optimization. Probabilistic Methods. Random Graphs.

AB This paper is written in a language other than English.

PD August 1993. TI Counting H-Free Graphs. AU Proemel, Hans-Juergen; Steger, Angelika. AA University of Bonn. SR Universitat Bonn Sonderforschungsbereich 303 - Discussion Paper: 93808; Sonderforschungsbereich 303 an der Universitat Bonn, Adenauerallee 24-42, D-5300 Bonn 1, DEUTSCHLAND. PG 6. PR no charge. JE C60. KW Counting. Random Graph.

AB In this note we estimate the cardinality of a class of H-free graphs by establishing good bounds for the probability that a random graph in the $G(n,m)$ -model does not contain a given subgraph.

Pulleyblank, W.

PD April 1992. TI On Splitable Sets. AU Pulleyblank, W.; Reed, Bruce; Shepherd, F. AA Pulleyblank: Watson Research Center, IBM. Reed and Shepherd: University of Bonn. SR Universitat Bonn Sonderforschungsbereich 303 - Discussion Paper: 92770; Sonderforschungsbereich 303 an der Universitat Bonn, Adenauerallee 24-42, D-5300 Bonn 1, DEUTSCHLAND. PG 10. PR no charge. JE C44, C60. KW Euclidean Plane. Splitable Sets. Network Flow.

AB Let S be a set of points in the Euclidean plane. A splitable set is a set X which is a subset S such that there exists a straight line in the plane separating X from the subset of S which excludes X . We consider the problem of obtaining a linear system sufficient to define the convex hull of the set of incidence vectors of splitable sets. We show that if the points in S form the vertices of a convex polygon, then a sufficient system can be obtained via projection techniques from classical flow polyhedra.

Rahman, Shahidur

PD May 1994. TI A Comparison of Marginal Likelihood Based and Approximate Point Optimal Tests for Random Regression Coefficients in the Presence of Autocorrelation. AU Rahman, Shahidur; King, Maxwell L. AA Monash University. SR Monash Department of Econometrics Research Working Paper: 4/94; Department of Econometrics, Monash University, Clayton, Victoria 3168, AUSTRALIA. PG 19. PR no charge. JE C12, C52. KW Invariance. Lagrange Multiplier Test. Monte Carlo. Power.

AB With respect to testing linear regression disturbances, two methods of test construction have recently been found to work well. These are traditional asymptotic tests based on the marginal likelihood or equivalently the likelihood of the maximal invariant and point optimal or approximate point optimal (APO) tests. The former approach has been found to work well for testing for random regression coefficients in the presence of autocorrelated errors. This paper constructs APO invariant (APOI) tests for this testing problem and extends the previous Monte Carlo study to include APOI tests. We conclude that for this testing problem, the extra work required to apply APOI tests hardly seems worthwhile, particularly for larger sample sizes.

Ranis, Gustav

PD September 1993. TI Labor Markets, Human Capital and Development Performance in East Asia. AA Yale University. SR Yale Economic Growth Center Discussion Paper: 697; Economic Growth Center, Yale University, Box 208269, Yale Station, New Haven CT 06520. PG 59. PR \$2.00 + postage. JE J24, J21, J40, O15. KW Human

Capital. Labor Market. Development.

AB This paper focuses on the human resources side of development performance in East Asia since the 1950's, with special attention paid to Taiwan and South Korea. Two frames of reference are used to analyze the successful records of these two systems. One is to analyze the relationship between labor markets and human capital formation, the second is the changing interplay between domestic and international forces. The initial conditions in each system in the early 50's of course played an important role. We then consider the nature of the import substitution phases in both systems, unusually mild, as was the unusual emphasis on agriculture and the early attention paid to linkages between agriculture and rural industry even during this inward-oriented subphase of development. Subsequently, as both systems undertook major policy reforms, shifting to labor-intensive industrial export-oriented economies in the 60's and early 70's, we again analyze the importance of labor market conditions along with the rapid mobilization of agriculture on behalf of a booming industrialization effort. Lastly, as labor surplus is exhausted, the human capital emphasis in both systems becomes even more important as they enter the technological era of the 70's and 80's. Human resource and technology policies with respect to vocational education, higher education, R&D, etc., are shown to accommodate, not obstruct, the needs of the systems over time. Institutional and organizational investments, along with flexibility in macroeconomic policies, are seen as important contributors to the well-known success story of East Asia.

Razin, Assaf

PD August 1994. TI The Status of Capital Income Taxation in the Open Economy. AU Razin, Assaf; Sadka, Efraim. AA Tel Aviv University. SR Tel Aviv Foerder Institute for Economic Research Working Paper: 17/94; Department of Economics, Tel Aviv University, Ramat Aviv 69978, ISRAEL. PG 22. PR no charge. JE F21, F23, H21. KW Capital Income Tax. Small Open Economy. Steady State.

AB No capital income tax, whatsoever, can efficiently be imposed by a small open economy if capital flight to the rest of the world cannot be effectively stopped. Consequently, all of the tax burden falls on the internationally immobile factor, such as labor, property, land, etc. The ensuing equilibrium is a constrained optimum, relative to the set of tax instruments that is available. Since, however, the set of tax instruments in this case is more restricted than if taxes on foreign sources of income are enforceable, it follows that the constrained optimum (in the capital-flight case) is inferior to the second-best optimum that could be reached if worldwide income taxation is implementable. Countries therefore should have strong incentives to coordinate their tax collection activities so as to enforce taxation of foreign-source income. In the absence of such coordination each country may do well by trying to contain its residents' capital within its national borders, at least partially. These considerations are not restricted to the Chamley-Judd steady-state framework, which has limited relevance for policy design. Rather, they apply to the on-going policy making.

PD August 1994. TI Resisting Migration: The Problems of Wage Rigidity and the Burden on the Welfare State. AU Razin, Assaf; Sadka, Efraim. AA Tel Aviv University. SR Tel Aviv Foerder Institute for Economic Research Working Paper: 20/94; Department of Economics, Tel Aviv

University, Ramat Aviv 69978, ISRAEL. PG 21. PR no charge. JE F22, H31, H53, J61. KW International Migration. Wage Rigidity. Welfare State.

AB Just like any trade activity in well-functioning markets, migration tends to generate gains to all parties involved: the migrants as well as the native population. But these gains tend to be rather low. However, when the labor market is malfunctioning, migration exacerbates imperfections in the market. Consequently, it may lead to losses to the veteran population which can be quite sizable. Another problem raised by migration is the toll it imposes on the welfare state. Being unable to perfectly exclude migrants from various entitlement programs and public services, the modern welfare state finds it more and more costly to run its various programs. These two economic considerations may help explain why there is strong resistance to migration. Consequently, to be able to benefit more from migration, one may want to improve the functioning of the markets (with a possible compensation to wage earners that compete with unskilled migrants) and to be more selective in the scope of and the eligibility for the state entitlement programs.

Reed, Bruce

PD September 1991. TI The Strongly Connected Components of 1-In, 1-Out. AU Reed, Bruce; McDiarmid, Colin. AA Reed: University of Bonn. McDiarmid: Oxford University. SR Universitat Bonn Sonderforschungsbereich 303 - Discussion Paper: 91719; Sonderforschungsbereich 303 an der Universitat Bonn, Adenauerallee 24-42, D-5300 Bonn 1, DEUTSCHLAND. PG 12. PR no charge. JE C44. KW Random Digraph. Limiting Probability. AB not available.

PD October 1991. TI Many Counterexamples to a Conjecture of Las Vergnas and Meyniel. AA University of Bonn. SR Universitat Bonn Sonderforschungsbereich 303 - Discussion Paper: 91721; Sonderforschungsbereich 303 an der Universitat Bonn, Adenauerallee 24-42, D-5300 Bonn 1, DEUTSCHLAND. PG 3. PR no charge. JE C44. KW Graph Theory. Probabilistic Graph Theory.

AB In 1981, Las Vergnas and Meyniel conjectured that if G contains k disjoint sets of vertices S_1, \dots, S_k such that $S_i \cup S_j$ is connected for all i not equal to j then G has a $K_{k \times k}$ minor. Jorgensen proved this conjecture for k less than or equal to 8 and Duchet independently approved it for k less than or equal to 9 (unpublished). In this paper, a probabilistic argument is presented which shows that the conjecture is false for all sufficiently large k .

TI An Extremal Function for the Achromatic Number. AU Bollobas, Bela; Reed, Bruce; Thomason, Andrew.

TI On Splitable Sets. AU Pulleyblank, W.; Reed, Bruce; Shepherd, F.

TI Non-Interfering Network Flows. AU McDiarmid, Colin; Reed, Bruce; Schrijver, A.; Shepherd, B.

PD July 1992. TI Finding Disjoint Trees in Planar Graphs in Linear Time. AU Reed, Bruce; Robertson, N.; Schrijver, A.; Seymour, P. AA Reed: University of Bonn. Robertson: Ohio State University. Schrijver: University of Amsterdam. Seymour: Bellcore, N.J. SR Universitat Bonn Sonderforschungsbereich 303 - Discussion Paper: 92763; Sonderforschungsbereich 303 an der Universitat Bonn, Adenauerallee 24-42, D-5300 Bonn 1, DEUTSCHLAND.

PG 5. PR no charge. JE C44, C60. KW Disjoint Trees. Planar Graphs.

AB This paper addresses the existence of a linear-time algorithm for a particular problem.

TI When is the Assignment Bound Tight for the Asymmetric Traveling Salesman Problem? AU Frieze, A.; Karp, R.; Reed, Bruce.

TI Almost Every Graph Can be Covered by Linear Forests. AU McDiarmid, Colin; Reed, Bruce.

TI Mick Gets Some (The Odds Are on His Side). AU Chvatal, V.; Reed, Bruce.

Reimer, Matthias

PD March 1993. TI Down-and-Out Call: Bewertungstheorie, Numerische Verfahren und Simulationsstudie. AU Reimer, Matthias; Sandmann, Klaus. AA University of Bonn. SR Universitat Bonn Sonderforschungsbereich 303 - Discussion Paper: B-239; Sonderforschungsbereich 303 an der Universitat Bonn, Adenauerallee 24-42, D-5300 Bonn 1, DEUTSCHLAND. PG 42. PR no charge. JE C73, D81, G12, G13, G32. KW Call Option. Monte-Carlo. Martingale Measure. AB This paper is written in a language other than English.

PD March 1994. TI European and American Barrier Options: A Discrete Time Approach and Further Extensions. AU Reimer, Matthias; Sandmann, Klaus. AA University of Bonn. SR Universitat Bonn Sonderforschungsbereich 303 - Discussion Paper: B-272; Sonderforschungsbereich 303 an der Universitat Bonn, Adenauerallee 24-42, D-5300 Bonn 1, DEUTSCHLAND. PG 35. PR no charge. JE G13. KW Option Pricing. Arbitrage. Barrier Options.

AB Barrier options are similar to standard call and put options, except that the final payoff is dependent on some barrier condition. In the framework of a binomial model, the paper presents closed-form solutions for the different barrier options. Furthermore, the limit results are derived and an analysis of the numerical procedure is given. Beyond this, the case of American barrier options is analyzed in detail. For American barrier call options, binomial formulae and their limit results are given. Finally, the binomial approach is applied to local and partial barrier checks (i.e., when the path dependency is restricted to some set of times).

Reiter, Stanley

PD January 1994. TI On Endogenous Economic Regulation. AA Northwestern University. SR Northwestern University Center for Mathematical Studies in Economics and Management Science Discussion Paper: 1082; Northwestern University, 2001 Sheridan Road, 3-014 Leverone Hall, Evanston, IL 60208-2014. PG 38. PR \$3.00 in U.S. and Canada; \$5.00 via international mail. JE H11, L51, K23. KW Regulation. Market Failure. Government Intervention.

AB Economic life seems to be dominated by the use of the power of the state to regulate, restrict and direct economic activity, and to redistribute its fruits. Public opinion and the opinions of economists seem to be that interventions by the state in economic affairs are not done very well. There are some who hold the view that state interventions are harmful, and others who hold the view that they are necessary to rectify failures of performance by the private economy. Economic

theory recognizes the limits of validity of the classical welfare theorems, which express at a fundamental level the claim that a private market economy free of state regulatory intervention can be expected to produce efficient results. Economic theory provides a justification for regulatory intervention in cases of "market failure", such as those due to significant indivisibilities, or to increasing returns to scale, or externalities. While some cases of intervention seem to be of this type, such as public utility regulation, it is difficult to believe that most interventions by the state in economic affairs are directed to correcting inefficiencies due to market failures. Indeed, many such interventions seem to achieve their objectives, whatever those may be, at the cost of introducing inefficiencies of their own. This paper presents a formal framework in which regulation is endogenous, and in which the representation of regulation is sufficiently general to capture a broad range of specific ways in which the state intervenes in the economic system. It is intended that this model be broadly consistent with U.S. legal and institutional history.

TI A Lower Bound on Computational Complexity Given by Relevance Mechanisms. AU Mount, Kenneth R.; Reiter, Stanley.

Rhoades, Stephen A.

PD July 1994. TI A Summary of Merger Performance Studies in Banking, 1980-93, and an Assessment of the "Operating Performance" and "Event Study" Methodologies. AA Board of Governors of the Federal Reserve System. SR Board of Governors of the Federal Reserve System Staff Studies Paper: 167; Board of Governors of the Federal Reserve System, Economic Editing Section, Division of Research and Statistics, Washington, DC 20551. PG 9. PR no charge. JE G21, L13, L22. KW Mergers. Banking. Operating Performance.

AB Mergers reached record levels in the banking industry as well as in the industrial sector in the second half of the 1980s. The general economic conditions of the period and changes in the enforcement of the antitrust laws regarding mergers may have eased the way for some combinations, but there is good reason to believe that the increased merger activity is likely to persist on its own and result in a restructuring of the industry. The effect of mergers on firm performance is the subject of ongoing debate, and studies of the question have been growing in number. To assess the current state of knowledge, the present work examines the thirty-nine studies I found to have been published from 1980 to 1993 on the effects of bank mergers on efficiency, profitability, or stockholder wealth.

Rhon, Jiri

TI Checking Robust Nonsingularity is NP-Hard. AU Poljak, Svatopluk; Rhon, Jiri.

Robertson, N.

TI Finding Disjoint Trees in Planar Graphs in Linear Time. AU Reed, Bruce; Robertson, N.; Schrijver, A.; Seymour, P.

Rock, M.

TI Reengineering and Organizational Change: Lessons From a Comparative Analysis of Case Studies. AU Ascari, A.; Rock, M.; Dutta, Soumitra.

Rockoff, Hugh

PD December 1993. TI The Meaning of Money in the Great Depression. AA Rutgers University and National Bureau of Economic Research. SR National Bureau of Economic Research Working Paper Series on Historical Factors in Long Run Growth: 52; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge MA 02138. PG not available. PR \$5.00. JE E41, E51, G21, N21. KW Money Stock. Depression. Banking Crises.

AB The quality of the money stock declined during the banking crises of the early 1930's. Bank deposits did not serve as a secure short-term store of purchasing power for use in an emergency as well as they had previously, and during the periods of restricted deposits in late 1932 and early 1933, bank deposits could not fulfill their basic function of being a medium of exchange. This paper presents some evidence to show that the decline in the quality of the money stock contributed to the severity of the contraction.

Roller, Lars-Hendrik

TI Competition in the European Banking Industry: An Aggregate Structural Model of Competition. AU Neven, Damien; Roller, Lars-Hendrik.

Rosen, Harvey S.

TI Sale Taxes and Prices: An Empirical Analysis. AU Besley, Timothy J.; Rosen, Harvey S.

Rosen, Sherwin

PD December 1991. TI The Market for Lawyers. AA University of Chicago. SR University of Chicago Center for the Study of the Economy and the State Working Paper: 72; Center for the Study of the Economy and the State University of Chicago, 1101 East 58th Street, Chicago, IL 60637. PG 52. PR \$3.00; make check payable to "The University of Chicago." JE J44, C22, D13. KW Lawyers. Earnings. Employment.

AB Earnings, entry, and demographic composition of lawyers are analyzed empirically from CPS data for 1967-86. Entry of women and large college class sizes eligible for law school accounts for the enormous growth of the legal profession over the period. The size of law schools expanded remarkably quickly to accommodate increased demand. The number of schools increased at a slower pace. Real earnings of both lawyers and college graduates unadjusted for changing demographic composition followed a wave-like pattern, rising over 1967-1971, falling during 1972-81, and rising sharply thereafter. Correcting earnings data for demographic shifts implies that the rate of return to legal education increased by a point or two in the 1980's, but on the whole was fairly flat over the entire period, supporting the idea that supplies of new entrants are elastic and responded rapidly to sharply increasing demand for legal services. However, the standard dynamic model does less well in explaining year-to-year changes in the timing of entry.

TI The Market for Engineers. AU Ryoo, Jaewoo; Rosen, Sherwin.

TI The New Economics of Teachers and Education. AU Flyer, Frederick; Rosen, Sherwin.

Rosenbloom, Joshua L.

PD January 1994. TI Employer Recruitment and the

Integration of Industrial Labor Markets, 1870-1914. AA University of Kansas and National Bureau of Economic Research. SR National Bureau of Economic Research Working Paper Series on Historical Factors in Long Run Growth: 53; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge MA 02138. PG not available. PR \$5.00. JE J23, N31, O41. KW Unbalanced Growth. Labor Market. Recruitment.

AB The substantial shifts in the sectoral and geographic location of economic activity that took place in the late nineteenth-century United States required the reallocation of large quantities of labor. This paper examines the response of labor market institutions to the challenges of unbalanced growth. Based on previously unexploited descriptive evidence from the reports of the Immigration Commission it argues that employer recruitment was crucial to the adjustment of labor markets to shifting patterns of supply and demand. Because individual employers could capture only a fraction of the benefits of recruitment, however, investment in this activity may have been less than would have been socially optimal, suggesting a possible explanation for the persistence of large geographic wage differentials.

Rostowski, Jacek

PD April 1994. TI Interenterprise Arrears in Post-Communist Economies. AA International Monetary Fund and London University. SR International Monetary Fund Working Paper: WP/94/43; International Monetary Fund, 700 19th Street, Washington, DC 20431. PG 32. PR not available. JE E52, P34, P51. KW Inter-Enterprise Debt. Trade Credit. Post-Communism.

AB The reasons for the growth of interenterprise debt are analyzed. It is suggested that it results mainly from the appearance of normal trade credit in a liberalized economy, and when a monetary squeeze is part of a stabilization attempt that is not credible. In the latter case, the result can be a sharp fall in output. Non-market and market solutions to this problem are analyzed, and the advantages of the latter over the former are stressed.

Rousslang, Donald

PD May 1994. TI The Trade and Welfare Consequences of U.S. Export-Enhancing Tax Provisions. AU Rousslang, Donald; Tokarick, Stephen. AA Rousslang: U.S. Department of the Treasury. Tokarick: International Monetary Fund. SR International Monetary Fund Working Paper: WP/94/50; International Monetary Fund, 700 19th Street, Washington, DC 20431. PG 16. PR not available. JE C68, F13. KW Tax Provisions. General Equilibrium. Exports. Tariffs.

AB The U.S. tax code contains two provisions that encourage exports by reducing the U.S. corporate income tax on export profits. An applied general equilibrium model of the U.S. economy is used to estimate the trade and welfare consequences of eliminating both tax provisions. We find that the provisions ameliorate the trade-discouraging effects of U.S. tariffs, but they also adversely affect the U.S. terms of trade to such an extent that eliminating them is likely to improve U.S. domestic welfare. While it is possible to find an "equivalent" tariff rate that replicates the effects on trade flows of removing the tax provisions, the welfare effects of a tariff differ importantly because a tariff interacts differently than the tax provisions with other distortions in the model.

Rubinstein, Ariel

TI On the Interpretation of Decision Problems With Imperfect Recall. AU Piccione, Michele; Rubinstein, Ariel.

Ruhl, Christor

PD December 1993. TI Privatization and Corporate Control. AA University of California, Los Angeles and Central European University, Prague. SR University of Western Ontario Papers in Political Economy: 48; Department of Economics, Social Science Centre, University of Western Ontario, London, Ontario, CANADA N6A 5C2. PG 18. PR no charge. JE D31, O12, P21. KW Privatization. Russia. Scale Economies.

AB The first section outlines some structural characteristics of a centrally planned economy, and connects these observations to the Russian program for mass-privatization. The next section briefly discusses the emergence of joint ownership under competitive conditions when economies of scale are present, and addresses the ensuing problem of ownership control and its relation to the distribution and the level of wealth. The last section applies the results to the problem of insider versus outsider privatization in Russia.

Russell, Steven H.

TI Monetary Steady States in a Low Real Interest Rate Economy. AU Bullard, James; Russell, Steven H.

Ryoo, Jaewoo

PD November 1992. TI The Market for Engineers. AU Ryoo, Jaewoo; Rosen, Sherwin. AA Ryoo: University of Pennsylvania. Rosen: University of Chicago. SR University of Chicago Center for the Study of the Economy and the State Working Paper: 83; Center for the Study of the Economy and the State University of Chicago, 1101 East 58th Street, Chicago, IL 60637. PG 44. PR \$3.00; make check payable to "The University of Chicago.". JE J44, D13, L60. KW Engineers. Earnings. Employment.

AB The national market for engineers in the United States is described over the 1950-90 period. Stocks of practitioners, new entrants, and relative wages and salaries are tracked alongside such demand shifters as durable-goods production, R&D activities and national defense spending, and such supply shifters as wage prospects and opportunities in competing professions. We find that accounting and business careers appear to compete more strongly for new entrants than other occupations and that entrants respond quite strongly to relative earnings prospects assessed over careers at the time of their decision to study engineering. The supply elasticity of new entrants to engineering with respect to the present value of future engineering earnings relative to that of all college graduates is 2.5, among the largest that has been found for any profession. This large market response suggests that possible future shortfalls of engineers will not be a problem and that training engineers ahead of demand is not warranted.

Sadka, Efraim

TI The Status of Capital Income Taxation in the Open Economy. AU Razin, Assaf; Sadka, Efraim.

TI Resisting Migration: The Problems of Wage Rigidity and the Burden on the Welfare State. AU Razin, Assaf; Sadka, Efraim.

Sagi, Eli

PD July 1994. **TI** Prospects for Trade Between Israel and the Arab Countries. **AU** Sagi, Eli; Sheinin, Yacov. **AA** Sagi: Tel Aviv University and Economic Models Ltd. Sheinin: Economic Models Ltd. **SR** Tel Aviv Foerder Institute for Economic Research Working Paper: 14/94; Department of Economics, Tel Aviv University, Ramat Aviv 69978, ISRAEL. **PG** 17. **PR** no charge. **JE** O53, F14, F15. **KW** Economic Peace. Trade Prospects, Israel.

AB The settlement of the Arab-Israel conflict through peace will have significant ramifications on the Israeli economy. However, the principal effects will be felt in areas not directly associated with trade between Israel and the Arab world: a reduced security burden, a rise in foreign investments made in Israel and an increase in Israeli exports to industrialized countries. These developments will enable the Israeli economy to continue to grow at an annual rate of 5 percent, throughout most of this decade.

Saint-Paul, Gilles

PD April 1994. **TI** Searching for the Virtues of the European Model. **AA** International Monetary Fund, DELTA, CERAS, ENPC, and Centre for Economic Policy Research. **SR** International Monetary Fund Working Paper: WP/94/46; International Monetary Fund, 700 19th Street, Washington, DC 20431. **PG** 18. **PR** not available. **JE** E61, J68, D31, H23. **KW** Distributional Effects. Minimum Wage. Taxation.

AB The distributional effects of the minimum wage are analyzed in a model where skilled and unskilled labor enter the production function. It is argued that distributional goals are best achieved by letting the labor market clear and achieving redistribution through taxes and transfers.

Sakuragawa, Masaya

PD June 1993. **TI** Net Worth, Credit Constraints, and Economic Development. **AA** Nagoya City University and Yale University. **SR** Yale Economic Growth Center Discussion Paper: 696; Economic Growth Center, Yale University, Box 208269, Yale Station, New Haven CT 06520. **PG** 53. **PR** \$2.00 + postage. **JE** D82, O16. **KW** Asymmetric Information. Development.

AB This paper constructs an overlapping generations model with production in which moral hazard coming from asymmetric information leads to capital market imperfections. In a small open economy setting the initial net worth positions of borrowers affects the long-run state of the economy. An economy that is richer in the early stages is more likely to achieve a long-run rich equilibrium. In a closed economy, the multiple steady states disappear. This result is sharply contrasted with Diamond (1965) because in his model multiple steady states may be viable in a closed economy, but disappear in a small open economy.

Samuelson, Larry

TI Learning to Signal in Markets. **AU** Noeldeke, Georg; Samuelson, Larry.

TI Muddling Through: Noisy Equilibrium Selection. **AU** Binmore, Ken; Samuelson, Larry.

Sandmann, Klaus

PD February 1993. **TI** A Simulation Study of Binomial Term Structure Models: Their Stability and the Term Structure

Movements They Imply. **AU** Sandmann, Klaus; Schloegel, Erik. **AA** University of Bonn. **SR** Universitat Bonn Sonderforschungsbereich 303 - Discussion Paper: B-238; Sonderforschungsbereich 303 an der Universitat Bonn, Adenauerallee 24-42, D-5300 Bonn 1, DEUTSCHLAND. **PG** 28. **PR** no charge. **JE** C73, D81, G12, G13, G32. **KW** Arbitrage. State Prices. Option Pricing. Term Structure.

AB This paper describes the results of computer simulations of term structure movements generated by binomial models. Using the seminal Ho/Lee (1986) model as a benchmark, the qualitative implications of the Sandmann/Sondermann (1989/91) model are analyzed. The aim of this analysis is motivated to a large extent by the pricing of interest rate contingent claims by forward induction, which can be interpreted as state price valuation. In addition to both models' stability under variation of the transition probability and finer division of the time line, we observe that in contrast to the Ho/Lee model, the Sandmann/Sondermann (1989/91) model allows for a wider class of term structure movements. Furthermore, we discuss the effects of time-dependent volatility.

TI Down-and-Out Call: Bewertungstheorie, Numerische Verfahren und Simulationsstudie. **AU** Reimer, Matthias; Sandmann, Klaus.

PD December 1993. **TI** On the Stability of Lognormal Interest Rate Models. **AU** Sandmann, Klaus; Sondermann, Dieter. **AA** University of Bonn. **SR** Universitat Bonn Sonderforschungsbereich 303 - Discussion Paper: B-263; Sonderforschungsbereich 303 an der Universitat Bonn, Adenauerallee 24-42, D-5300 Bonn 1, DEUTSCHLAND. **PG** 17. **PR** no charge. **JE** C44, E43, G12. **KW** Term Structure. Lognormal Distribution. Continuous Compounding.

AB The lognormal distribution assumption for the term structure of interest is the most natural way to exclude negative spot and forward rates. However, imposing this assumption on the continuously compounded interest rate has a serious drawback: expected rollover returns are infinite even if the rollover period is arbitrarily short. As a consequence such models cannot price one of the most widely used hedging instrument on the Euromoney market, namely the Eurofuture contract. The purpose of this paper is to show that the problem with lognormal models results from modelling the wrong rate, namely the continuously compounded rate. If instead one models the effective annual rate, the problem disappears (i.e., the expected rollover returns are finite). The paper studies the resulting dynamics of the continuously compounded rate which is neither normal nor lognormal.

TI European and American Barrier Options: A Discrete Time Approach and Further Extensions. **AU** Reimer, Matthias; Sandmann, Klaus.

Santos, Manuel

PD November 1993. **TI** Rational Asset Pricing Bubbles. **AU** Santos, Manuel; Woodford, Michael. **AA** Santos: Universidad Carlos III, Madrid. Woodford: University of Chicago. **SR** Universitat Bonn Sonderforschungsbereich 303 - Discussion Paper: A-444; Sonderforschungsbereich 303 an der Universitat Bonn, Adenauerallee 24-42, D-5300 Bonn 1, DEUTSCHLAND. **PG** 63. **PR** no charge. **JE** G12, D41, D92. **KW** Asset Pricing. Bubbles. Competitive Equilibrium.

AB This paper is concerned with the conditions under which

asset prices in an intertemporal competitive equilibrium are equal to the present value of the streams of future dividends to which each asset represents a claim. According to a central result of the theory of finance, this is always true in the case of finite-horizon economies, as long as there are no restrictions upon transactions other than that associated with possible incompleteness of the set of securities that are traded. (The result is sometimes called "the fundamental theorem of asset pricing".) Here we consider the extent to which such a result continues to be valid in the case of trading over an infinite horizon.

Saunders, Anthony

TI The Effect of Bank Capital Requirements on Bank Off-Balance Sheet Financial Innovations. AU Jagtiani, Julapa; Saunders, Anthony; Udell, Gregory.

Scherer, F. M.

PD April 1994. TI Learning-By-Doing and International Trade in Semiconductors. AA Harvard University. SR Harvard John F. Kennedy School of Government Faculty Research Working Paper Series: R94-13; John F. Kennedy School of Government, Harvard University, 79 John F. Kennedy Street, Cambridge, MA 02138. PG not available. PR no charge. JE not available. KW not available. AB not available.

Schloegel, Erik

TI A Simulation Study of Binomial Term Structure Models: Their Stability and the Term Structure Movements They Imply. AU Sandmann, Klaus; Schloegel, Erik.

Schmeidler, David

TI Bayes Without Bernoulli: Simple Conditions for Probabilistically Sophisticated Choice. AU Machina, Mark J.; Schmeidler, David.

Schmidt, Klaus

PD January 1994. TI Managerial Incentives and Product Market Competition. AA University of Bonn. SR Universitat Bonn Sonderforschungsbereich 303 - Discussion Paper: A-430; Sonderforschungsbereich 303 an der Universitat Bonn, Adenauerallee 24-42, D-5300 Bonn 1, DEUTSCHLAND. PG 27. PR no charge. JE D21, L14. KW Managerial Incentives. Competition. Moral Hazard. AB The paper shows that an increase in competition has two effects on managerial incentives: it increases the probability of liquidation, which has a positive effect on managerial effort, but it also reduces the firm's profits which may make it less attractive to induce high effort. Thus, the total effect is ambiguous. I identify natural circumstances where increasing competition unambiguously reduces managerial slack. In general, however, this relation need not be monotonic. A simple example demonstrates that: starting from a monopoly, managerial effort may increase as additional competitors enter the market, but will eventually decrease when competition becomes too intense.

TI Debt as an Option to Own in the Theory of Ownership Rights. AU Noeldeke, Georg; Schmidt, Klaus.

Schneider, Jean-Luc

TI Pensions, Price Shocks, and Macroeconomic Stability in

Transition Economies: Illustrations From Belarus. AU Ahmad, Ehtisham; Lugaresi, Sergio; Mourmouras, Alex; Schneider, Jean-Luc.

Schneider, S. C.

PD 1994. TI American and Japanese Expatriate Adjustment: A Psychoanalytic Contribution. AU Schneider, S. C.; Asakawa, K. AA INSEAD. SR INSEAD Working Papers: 94/24/OB; INSEAD, Boulevard de Constance, Fontainebleau, 77305 Cedex, FRANCE. PG 24. PR not available. JE F02, J11, J61. KW Expatriation. Human Resources. Personal Development.

AB While a wide range of literature on expatriation and repatriation tends to focus on individual adjustment and human resource management systems, the issue of expatriation has not been sufficiently examined in the context of personal development, beyond professional or career development, nor the impact of the sociocultural context. A psychoanalytic approach can be useful in understanding personal and family adjustment as well as some cultural determinants of response to expatriation. Issues of dependency, separation and individuation, and autonomy and control may provide important insights into expatriation and reasons why, for example, Japanese and American expatriates differ in their response.

Schrijver, A.

TI Non-Interfering Network Flows. AU McDiarmid, Colin; Reed, Bruce; Schrijver, A.; Shepherd, B.

TI Finding Disjoint Trees in Planar Graphs in Linear Time. AU Reed, Bruce; Robertson, N.; Schrijver, A.; Seymour, P.

Schultz, T. Paul

PD August 1993. TI Investments in the Schooling and Health of Women and Men: Quantities and Returns. AA Yale University. SR Yale Economic Growth Center Discussion Paper: 702; Economic Growth Center, Yale University, Box 208269, Yale Station, New Haven CT 06520. PG 70. PR \$2.00 + postage. JE H52, I18, I21, J24, O12. KW Human Capital. Women. Development.

AB Women's years of school enrollment and health, measured by longevity, have increased by a greater amount than men's in this century in most countries. Private and social returns to schooling and health are reviewed to explain these trends in women's human capital. Sample selection bias caused by analyzes of only wage earners does not appear to lower women's private returns to schooling relative to men's. Social returns to education, moreover, favor greater public investment in women than men, particularly in South and West Asia and Africa where school investments in women are much less than in men.

PD September 1993. TI Marital Status and Fertility in the United States: Welfare and Labor Market Effects. AA Yale University. SR Yale Economic Growth Center Discussion Paper: 703; Economic Growth Center, Yale University, Box 208269 Station, New Haven CT 06520. PG 39. PR \$2.00 + postage. JE H53, I38, J12, J13, J16. KW Marriage. Fertility. Welfare System. United States.

AB The incidence of marriage and the proportion of childbearing that occurs within marriage has decreased sharply in the United States in the last several decades. This paper examines whether the probability that a woman is currently

married and the number of children she has born, as reported in the 1980 U.S. Census, is related to two identifiable factors: the variation in welfare programs across states (specifically, AFDC and Medicaid benefits and AFDC-UP expenditures) or in market wage opportunities available to women and to their potential husbands. AFDC and Medicaid benefit levels are associated with fewer women being currently married. Medicaid benefits are related to lower fertility levels for both black and white women, whereas AFDC benefits in cash and food are associated with lower fertility among white women age 15-24. Those states that extend AFDC benefits to families with Unemployed Parents (i.e. fathers in intact poor families) do not have significantly more women married or higher fertility rates, as might be expected from economic incentives. Men's market wages are associated with more frequent marriage and higher fertility, whereas higher market wage opportunities for women have substantial effects in the opposite direction, all of which are consistent with standard models of gender specialization and the demand for marriage and fertility.

PD January 1994. **TI** Human Capital, Family Planning and Their Effects on Population Growth. **AA** Yale University. **SR** Yale Economic Growth Center Discussion Paper: 707; Economic Growth Center, Yale University, Box 208269, Yale Station, New Haven CT 06520. **PG** 12. **PR** \$2.00 + postage. **JE** C33, J11, J13, J24. **KW** Human Capital. Population Growth. Family Planning.

AB Reduced form explanations of population growth are decomposed into fertility and mortality. These reduced form equations are estimated first from three cross sections of 68 low income countries from 1972 to 1989, and then reestimated from changes occurring within these countries over time, by fixed effect methods. Adult female schooling is the most important factor related to lower fertility, mortality, and population growth, as is the availability of calories per capita. Reducing the share of the labor force in agriculture is also linked to lower fertility and mortality, and somewhat slower population growth. Nonhuman capital wealth, measured here by net fuel exports as a share of GDP, is associated with higher fertility and population growth. All of these patterns observed in both the cross section and the fixed effect estimates are anticipated from human capital models of lifetime fertility, and replicated in microeconomic empirical studies. Family planning programs are associated with slower population growth across countries, but contrary to expectation, family planning is unrelated to demographic changes occurring over the last two decades in the less developed countries.

Schweizer, Martin

TI A Microeconomic Approach to Diffusion Models for Stock Prices. **AU** Foellmer, Hans; Schweizer, Martin.

PD November 1993. **TI** Risk Minimizing Hedging Strategies Under Restricted Information. **AA** University of Goettingen. **SR** Universitat Bonn Sonderforschungsbereich 303 - Discussion Paper: B-259; Sonderforschungsbereich 303 an der Universitat Bonn, Adenauerallee 24-42, D-5300 Bonn 1, DEUTSCHLAND. **PG** 14. **PR** no charge. **JE** C61, G12. **KW** Option Hedging. Restricted Information. Risk Minimization.

AB This paper provides a construction of risk-minimizing hedging strategies in the case where there are restrictions on the available information.

PD November 1993. **TI** Approximating Random

Variables by Stochastic Integrals. **AA** University of Goettingen. **SR** Universitat Bonn Sonderforschungsbereich 303 - Discussion Paper: B-262; Sonderforschungsbereich 303 an der Universitat Bonn, Adenauerallee 24-42, D-5300 Bonn 1, DEUTSCHLAND. **PG** 39. **PR** no charge. **JE** C61, G12. **KW** Semimartingales. Stochastic Integral. Financial Mathematics.

AB not available.

PD January 1994. **TI** A Projection Result for Semimartingales. **AA** University of Goettingen. **SR** Universitat Bonn Sonderforschungsbereich 303 - Discussion Paper: B-265; Sonderforschungsbereich 303 an der Universitat Bonn, Adenauerallee 24-42, D-5300 Bonn 1, DEUTSCHLAND. **PG** 9. **PR** no charge. **JE** C61, C44, G12. **KW** Semimartingales. Stochastic Integrals. Financial Mathematics.

AB not available.

Schweizer, Urs

PD February 1994. **TI** Contract-Specific Environments Leading to Unsophisticated Contracts. **AA** University of Bonn. **SR** Universitat Bonn Sonderforschungsbereich 303 - Discussion Paper: A-432; Sonderforschungsbereich 303 an der Universitat Bonn, Adenauerallee 24-42, D-5300 Bonn 1, DEUTSCHLAND. **PG** 27. **PR** no charge. **JE** D23, D82. **KW** Moral Hazard. Contracts. Multiple Equilibria.

AB Given that moral hazard seems omnipresent, one might expect that many more contractual relationships should be governed by sophisticated incentive schemes than what we actually observe. By propagating the purely contract-theoretic approach, the present paper identifies contract-specific environments for the hidden action problem under which contracts that promise, at no incentives whatsoever, a flat rate to the agent cannot be outperformed by more sophisticated arrangements. Optimum contracts, however, are sometimes plagued by multiple equilibria. The paper reinforces Gale's and Hellwig's findings that a rather severe conflict between the game-theoretic and the contract-theoretic criterion should more carefully be taken into account than most authors currently do.

Scipione, Catherine M.

PD January 1994. **TI** Bayesian Statistical Variable Selection: A Review. **AA** Monash University. **SR** Monash Department of Econometrics Research Working Paper: 1/94; Department of Econometrics, Monash University, Clayton, Victoria 3168, AUSTRALIA. **PG** 12. **PR** no charge. **JE** C11, C51. **KW** Model Selection. Multiple Regression. Occam's Razor. Model Validation. Iterative Learning.

AB From a Bayesian viewpoint, the answer (in theory, at least) to the general model selection problem is known. However, the formalization of the selection problem does not realistically match the iterative process that occurs when selecting a model in practice. In addition, computational restrictions limit the applicability of the solution in general. In the multiple linear regression variable selection setting, however, the Bayesian approach offers some practical procedures that can be used to at least reduce the possible number of models under consideration. "Semi-automatic" methods for Bayesian variable selection have recently been developed by Mitchell and Beauchamp (1988) and George and McCulloch (1993) using relatively uninformative prior distributions for the unknown regression coefficients and

variance parameter. In particular, their choices enable the computation of the general solution to be feasible.

Scott Morton, Fiona M.

TI Misclassification of a Dependent Variable in a Discrete Response Setting. AU Hausman, Jerry A.; Scott Morton, Fiona M.

Seth, Rama

PD December 1992. TI Profitability of Foreign Banks in the United States. AA Federal Reserve Bank of New York. SR Federal Reserve Bank of New York Research Paper: 9225; Research Department - Room 901, Federal Reserve Bank of New York, 33 Liberty Street, New York, NY 10045. PG 20. PR no charge. JE G21, F21, F33. KW Foreign Banks. Foreign Direct Investment. Profitability. AB This study examines the non-profitability of foreign banks in the United States. Foreign banking in the United States has not performed well, both in relation to U.S. foreign direct investment in banking abroad and in relation to domestic banking in the United States. These results depend on a new measure of the equity position of foreign branches and agencies. They are not obvious from the equity position reported on the balance sheet by foreign banks in the United States, but are suggested by the commitment of equity to banking that can be inferred from their risk-weighted assets and the Basle Accord. Indeed the equity implied by these assets is roughly twice that reported by these foreign banks. The conventional use of only the investment position reported on the balance sheet of foreign bank branches and agencies has several implications. These include underestimation of the share of banking in foreign direct investment and overestimation of the profitability of banks and therefore of all foreign affiliates. A recalculation of the profitability of foreign banks, adjusting for the higher than reported equity position, does indeed reveal their dismal performance. What explains this dismal performance? It is unlikely that transfer pricing is entirely responsible or that the poor profits are merely transitional. While there is some scope and incentive for shifting income beyond the U.S. boundary, the underperformance is at least partly genuine. Poor asset quality and lower capital costs are partly responsible. This study first outlines the dimensions of the underperformance, both in relation to U.S. foreign direct investment in banking abroad and in relation to domestic banking in the United States. Next it briefly describes the direct foreign investment position in the United States, taking into account the equity commitment implicit in the portfolios of foreign banks (the difference is more fully explained in an appendix). It then examines the implications of the excess of unincorporated foreign banks' full equity commitment to their U.S. activities over their branch book equity. Finally it explores the reasons for the low profitability of these banks.

Seymour, P.

TI Finding Disjoint Trees in Planar Graphs in Linear Time. AU Reed, Bruce; Robertson, N.; Schrijver, A.; Seymour, P.

Shaffer, Greg

PD February 1994. TI Do Low-Price Guarantees Facilitate Collusion? AU Shaffer, Greg; Hviid, Morten. AA Shaffer: University of Michigan. Hviid: University of Warwick. SR University of Michigan Center for Research

on Economic and Social Theory (CREST) Working Paper: 94-01; Department of Economics, University of Michigan, Ann Arbor, Michigan 48109. PG 12. PR \$4.00; payable to the Department of Economics. JE D43, L13. KW Meeting Competition Clauses. Facilitating Practices.

AB We examine the role low-price guarantees allegedly play in supporting supracompetitive prices. We find that when firms can commit to matching or beating any lower price announced by a competitor, all Nash equilibria yield Bertrand selling prices. This result casts doubt on the robustness of the conclusions of models which restrict attention to meet-the-competition clauses only.

PD May 1994. TI Competitive Coupon Targeting. AU Shaffer, Greg; Zhang, Z. John. AA Shaffer: University of Michigan. Zhang: Washington University. SR University of Michigan Center for Research on Economic and Social Theory (CREST) Working Paper: 94-02; Department of Economics, University of Michigan, Ann Arbor, Michigan 48109. PG 27. PR \$4.00; payable to the Department of Economics. JE D12, C33, D21, D82. KW Coupon Targeting. Panel Data. Market Segmentation.

AB With the advent of panel data on household purchase behavior, and the development of statistical procedures to utilize this data, firms can now target coupons to selected households with increasing accuracy and cost effectiveness. As a consequence, new avenues of competition have opened up in which firms play an active role in market segmentation. In this article, we develop an analytical framework to examine the effect of targeting on firm profits, prices, coupon face values, and redemption rates. We also determine firms' optimal mix of offensive and defensive couponing. Among our findings: when rival firms can target their coupon promotions at brand switchers, the outcome will be a prisoner's dilemma in which the net effect of targeting is simply the cost of distribution plus the discount given to redeemers.

Shaffer, Sherrill

PD June 1994. TI Viability of Traditional Banking Activities: Evidence From Shifts in Conduct and Excess Capacity. AA Federal Reserve Bank of Philadelphia. SR Federal Reserve Bank of Philadelphia Research Working Paper: 94-11; Working Papers, Department of Research, Federal Reserve Bank of Philadelphia, 10 Independence Mall, Philadelphia, PA 19106. PG 16. PR no charge except overseas airmail, \$2.00; checks/money orders in U.S. funds payable to Federal Reserve Bank of Philadelphia. JE C13, D12, G21. KW Credit Supply. Demand Deposits. Statistics.

AB This paper applies modern statistical techniques to estimate levels and shifts of market conduct and aggregate excess capacity in the provision of traditional U.S. banking products such as loans and demand deposits. A variety of models indicate that loans are competitively supplied, with no obvious excess capacity. Some models find an anticompetitive shift in demand deposits after 1984, but other evidence suggests that this result may be an artifact attributable to the growth of NOW accounts, MMDA's, and the like. All results suggest that the current levels of these services can be profitably sustained under current market conditions.

Shahrokhi, Farhad

PD February 1992. TI Effective Lower Bounds for Crossing Number, Bisection Width and Balanced Vertex Separator in Terms of Symmetry. AU Shahrokhi, Farhad;

Szekely, Laszlo A. AA Shahrokhi: University of North Texas. Szekely: Eotvos University and University of Bonn. SR Universitat Bonn Sonderforschungsbereich 303 - Discussion Paper: 92745; Sonderforschungsbereich 303 an der Universitat Bonn, Adenauerallee 24-42, D-5300 Bonn 1, DEUTSCHLAND. PG 14. PR no charge. JE C60. KW Crossing Number. Bisection Width. Graph Theory. AB We develop effective lower bounds for the crossing number, bisection width, and balanced vertex separator using the concept of invariant concurrent multicommodity flow. Our general lower bounds are computed in $O(mn)$ time, for any graph with n vertices and m edges. These general lower bounds then imply some new lower bounds which involve the automorphism group of the graph.

Sharpe, Steven A.

TI Optimal Bank Portfolios and the Credit Crunch. AU Passmore, Wayne; Sharpe, Steven A.

TI Leverage as a State Variable for Employment, Inventory Accumulation, and Fixed Investment. AU Calomiris, Charles W.; Orphanides, Athanasios; Sharpe, Steven A.

Sheinin, Yacov

TI Prospects for Trade Between Israel and the Arab Countries. AU Sagi, Eli; Sheinin, Yacov.

Shen, Pu

PD May 1994. TI Liquidity of the Treasury Bill Market and the Term Structure of Interest Rates. AU Shen, Pu; Starr, Ross M. AA Shen: Federal Reserve Bank of Kansas City. Starr: University of California, San Diego. SR Federal Reserve Bank of Kansas City Research Working Paper: 94-02; Research Division, Federal Reserve Bank of Kansas City, 925 Grand Ave., Kansas City, MO 64198. PG 29. PR no charge. JE E43. KW Treasury Bills. Interest Rates.

AB We model the term structure of interest rates (and the term premium) on Treasury bills as attributable to transaction cost, in particular to the bid-ask spread on T-bills. Since the bid-ask spread on a bill is increasing in maturity, part of the term premium can be modeled as a premium for illiquidity, explicable by the transaction cost differences between the bills. Empirical results show that the bid-ask spread in Treasury bills is priced in the bill market and accounts for a substantial portion of the term premium, sometimes to the exclusion of the risk premium component in the term structure.

Shepherd, B.

TI Excluding Minors in Cubic Graphs. AU Kilakos, K.; Shepherd, B.

TI Non-Interfering Network Flows. AU McDiarmid, Colin; Reed, Bruce; Schrijver, A.; Shepherd, B.

Shepherd, F.

TI On Splitable Sets. AU Pulleyblank, W.; Reed, Bruce; Shepherd, F.

Shirai, Sayuri

TI Information Externalities Affecting the Dynamic Pattern of Foreign Direct Investment: The Case of China. AU Huang, Dongpei; Shirai, Sayuri.

Shleifer, Andrei

TI Contrarian Investment, Extrapolation, and Risk. AU Lakonishok, Josef; Shleifer, Andrei; Vishny, Robert W.

TI Voucher Privatization. AU Boycko, Maxim; Shleifer, Andrei; Vishny, Robert W.

Shy, Oz

TI Network Structure and Entry, In the Deregulated Airline Industry. AU Berechman, Joseph; Poddar, Sougata; Shy, Oz.

PD July 1994. TI Technology Revolutions in the Presence of Network Externalities. AA Tel Aviv University. SR Tel Aviv Foerder Institute for Economic Research Working Paper: 16/94; Department of Economics, Tel Aviv University, Ramat Aviv 69978, ISRAEL. PG 18. PR no charge. JE O30, L00. KW Technology Revolutions. Technology Adoption. Network Externalities.

AB The purpose of this paper is to characterize the timing and frequency of substantial technological changes in the presence of installed bases resulting from network externalities. The underlying assumptions are that (a) technological breakthroughs are not upward compatible with old technologies, and (b) due to limited patent protection, the innovators of technological breakthroughs cannot fully extract future generations' consumer surplus generated by radical technological changes. The paper characterizes the timing and frequency of new technology adoptions, and shows that the duration of each adopted technology and the frequency of technology adoptions depend on whether (in consumers' perspectives) the network effect is a substitute for or a complement to the quality of the technology.

Sick, Gordon

TI Scale Economies and Cost Complementarities in Commercial Banks: On- and Off-Balance-Sheet Activities. AU Jagtiani, Julapa; Nathan, Alli; Sick, Gordon.

Sicular, Terry

PD 1993. TI Public Finance and China's Economic Reforms. AA University of Western Ontario. SR University of Western Ontario Papers in Political Economy: 39; Department of Economics, Social Science Centre, University of Western Ontario, London, Ontario, CANADA N6A 5C2. PG 45. PR no charge. JE E61, E62, H42, O53. KW Public Finance. China.

AB Much past research on China's SOE's has focused on state-owned industry, which is perhaps the largest component of the state enterprise sector. To the extent permitted by the available data, this paper examines the SOE sector in its entirety. Unless stated otherwise, the SOE sector is defined to include not only industrial SOE's, but also state-owned enterprises in non-industrial sectors such as health, education, energy, transport, and commerce. Of particular interest are state-owned enterprises in the commercial sector, which are perhaps the single largest group of money-losing SOE's.

Siklos, Pierre L.

PD May 1994. TI Varieties of Monetary Reforms. AA Wilfrid Laurier University, Waterloo, Ontario and International Monetary Fund. SR International Monetary Fund Working Paper: WP/94/57; International Monetary Fund, 700 19th Street, Washington, DC 20431. PG 13. PR not available. JE E42, E43, E52, E58. KW Monetary

Arrangements. Foreign Exchange. Central Bank.

AB This paper surveys three types of monetary arrangements. It considers how the choice of an exchange rate regime, the degree of central bank independence, or choice of currency unions or boards depends not only on economic considerations but also on political economy considerations. In economic terms, the choice of monetary regime will depend on the policy that is best suited to reducing or stabilizing inflation. In political economy terms, the choice of monetary arrangement will ultimately depend on how independent a country wishes to be from shocks emanating from the rest of the world and the weight politicians attach to influencing economic conditions in their own country.

Sill, Keith

PD July 1994. **TI** Money, Output, and the Cyclical Volatility of the Term Structure. **AA** Federal Reserve Bank of Philadelphia. **SR** Federal Reserve Bank of Philadelphia Research Working Paper: 94-14; Working Papers, Department of Research, Federal Reserve Bank of Philadelphia, 10 Independence Mall, Philadelphia, PA 19106. **PG** 21. **PR** no charge except overseas airmail, \$2.00; checks/money orders in U.S. funds payable to Federal Reserve Bank of Philadelphia. **JE** C15, E32, E43, G12. **KW** Volatility. Bond Pricing. Money Growth. Income Growth. Simulation.

AB This paper simulates an artificial economy to determine the extent to which bond price volatility can be accounted for by variability in money growth and income growth. A cash-in-advance model economy is solved to determine bond prices as a linear function of money growth and income growth. Prices are simulated for both short-term and long-term bonds. The volatility of the simulated data is compared to the volatility of the actual data, and impulse response functions for bond prices are calculated.

Sippel, Reinhard

PD June 1994. **TI** An Experiment On the Pure Theory of Consumer's Behavior. **AA** University of Bonn. **SR** Universitat Bonn Sonderforschungsbereich 303 - Discussion Paper: B-274; Sonderforschungsbereich 303 an der Universitat Bonn, Adenauerallee 24-42, D-5300 Bonn 1, DEUTSCHLAND. **PG** 17. **PR** no charge. **JE** C91, D12. **KW** Consumer Theory. Revealed Preference. Experimental Economics.

AB By checking whether consumer demand satisfies the axioms of revealed preference one can test the empirical validity of the neoclassical theory of consumer behavior. However, applying the axioms to actual consumer purchase data is difficult, if not impossible, since serious problems of both a methodological and practical nature arise. This paper, after commenting on the few studies which have nevertheless been carried out, reports an experimental approach to revealed preference theory. Data were obtained by way of a controlled experiment involving real consumption of the goods chosen. Our results cast some doubts on the utility maximization hypothesis. The experimental setup seems promising for other experiments on consumer theory as well.

Skaperdas, Stergios

TI Extortion. **AU** Konrad, Kai; Skaperdas, Stergios.

Smith, Lones

PD May 1994. **TI** Necessary and Sufficient Conditions

for the Perfect Finite Horizon Folk Theorem. **AA** Massachusetts Institute of Technology. **SR** Massachusetts Institute of Technology Department of Economics Working Paper: 94-17; Department of Economics, Massachusetts Institute of Technology, Cambridge, MA 02139. **PG** 7. **PR** \$8.00 Domestic; \$10.00 Overseas; \$5.00 Student. **JE** C72, C62. **KW** Folk Theorem. Game Theory. Subgame Perfect Equilibrium.

AB The primary contribution of this note is purely conceptual: I wish to finish the work of Benoit and Krishna (1985), and thus complete the perfect information folk theorem program. Indeed, just as non-equivalent utilities (NEU) only differed from full-dimensionality by a nongeneric class of games, so too, within the class of stage games with recursively distinct Nash payoffs, the measure without distinct Nash payoffs for all players is zero. But conceptual clarity is not without its own reward, as I later provide a necessary and sufficient condition for the finite-horizon Nash folk theorem. I also recast BK in Wen's (1993) more encompassing framework. In so doing, I happen upon a simple new proof of the necessity of NEU in Abreu et al. (1993), and of what "necessity" means in Wen's tiered "folk" theorems more generally.

Snyder, Edward A.

TI Damage Schedules and Their Potential in Mitigating Adverse Selection in the Products Liability System. **AU** Niehaus, Gregg; Snyder, Edward A.

TI Litigation Under the English and American Rules: Theory and Evidence. **AU** Hughes, James W.; Snyder, Edward A.

Sommer, Daniel

PD April 1994. **TI** Continuous Time Limits in the Generalized Ho/Lee Framework Under Risk-Neutral- and Forward-Measures. **AA** University of Bonn. **SR** Universitat Bonn Sonderforschungsbereich 303 - Discussion Paper: B-276; Sonderforschungsbereich 303 an der Universitat Bonn, Adenauerallee 24-42, D-5300 Bonn 1, DEUTSCHLAND. **PG** 27. **PR** no charge. **JE** G12, G13. **KW** Ho/Lee Model. Forward Measure. Continuous Time Limit.

AB The forward measure in the discrete time Ho/Lee model is derived and passages to the continuous time limit are carried out under this measure. In particular, the continuous time zero-bond call-option-formula is obtained as a limit of its discrete time equivalent as well as the continuous time distribution of the spot rate. Finally, under the risk neutral measure it is shown how passages to the continuous time limit in a tri-nomial generalization of the Ho/Lee model can be carried out.

Sommer, Joseph H.

PD July 1993. **TI** The American Origin of the Separation of Banking and Commerce. **AA** Federal Reserve Bank of New York. **SR** Federal Reserve Bank of New York Research Paper: 9309; Research Department - Room 901, Federal Reserve Bank of New York, 33 Liberty Street, New York, NY 10045. **PG** 127. **PR** no charge. **JE** N21, G21, G28. **KW** Bank History. Alexander Hamilton. Bank of United States. American Corporations.

AB The American genesis of the separation of banking and commerce had little to do with banking theory. Rather, it was a confluence of eighteenth century corporate law and politics.

The separation of banking and commerce was just one element of an elaborate corporate governance structure. Eighteenth-century banks were monopolistic for-profit mercantile credit cooperatives. The separation of ownership and control was very much on the minds of the cooperators, and several governance structures were designed to prevent controlling cooperators from using their control for undue competitive advantage. Such measures included regressive voting, rotation of directors, and limited powers. One key limitation was forbidding banks to engage in direct competition with merchants. These earliest banks were similar in some respects to modern clearing corporations, which generally also enjoy unusual corporate governance structures. These governance restrictions required statal involvement. Without the charter restrictions sought by the cooperators and enacted by the state, a bank could not credibly commit to its original governance structure. This may explain the puzzle of early corporate popularity. State involvement implied political involvement. Limited-power charters happened to diminish the agrarian fear of nonstatal collective economic action, particularly in corporate form.

Sondermann, Dieter

TI Different Dynamical Specifications of the Term Structure of Interest Rates and Their Implications. **AU** Musiela, Marek; Sondermann, Dieter.

TI On the Stability of Lognormal Interest Rate Models. **AU** Sandmann, Klaus; Sondermann, Dieter.

Sorensen, Bent E.

TI On the Econometrics of Public Capital and Long-Run Productivity. **AU** Ho, Mun S.; Sorensen, Bent E.

Sproul, Michael

PD July 1994. **TI** The Real Bills Doctrine. **AA** University of California, Los Angeles. **SR** University of California, Los Angeles Department of Economics Working Paper: 712; Department of Economics, University of California, Los Angeles, 2263 Bunche, Los Angeles, CA 90024. **PG** 58. **PR** \$5.00. **JE** E51, E52. **KW** Real Bills. Quantity Theory. Money Supply. Inflation.

AB The Real Bills Doctrine holds that money will maintain its value as long as it is only issued in exchange for sufficient security. The Quantity Theory, in contrast, holds that the value of money is maintained by a limitation of its quantity. The Real Bills Doctrine has been rejected on the grounds that it places no adequate limits on money creation and therefore gives no safeguard against inflation. This paper points out several major flaws in the criticisms of the Real Bills Doctrine and argues that it is the Quantity Theory which is unacceptable. The Real Bills Doctrine, while it has been misstated and misinterpreted, is a completely satisfactory theory of money.

Srivastav, Anand

PD December 1992. **TI** Weighted Fractional and Integral k-Matching in Hypergraphs. **AU** Srivastav, Anand; Stangier, Peter. **AA** Srivastav: University of Bonn. Stangier: University of Cologne. **SR** Universitat Bonn Sonderforschungsbereich 303 - Discussion Paper: 92773; Sonderforschungsbereich 303 an der Universitat Bonn, Adenauerallee 24-42, D-5300 Bonn 1, DEUTSCHLAND. **PG** 24. **PR** no charge. **JE** C44, C63. **KW** Hypergraph Matching. Integer Program. Randomized

Algorithm.

AB We consider the problem of finding polynomial-time approximations of maximal weighted k-matchings in hypergraphs and investigate the relationship between the integral and fractional maxima of the corresponding 0-1 integer linear program and its LP-relaxation. We extend results of Raghavan, who gave a deterministic approximation algorithm for unweighted k-matching, to the weighted case and generalize a lower bound of Aharoni, Erdos and Linial for the ratio between the integer and fractional maximum from the case of unweighted 1-matching to weighted k-matching. In particular a new technique for derandomization of probabilistic existence results, which involve weighted sums of Bernoulli trials, is introduced.

Stacchetti, Ennio

PD May 1994. **TI** Multidimensional Mechanism Design for Auctions with Externalities. **AU** Stacchetti, Ennio; Moldovanu, Benny; Jehiel, Philippe. **AA** Stacchetti: University of Michigan. Moldovanu: University of Bonn. Jehiel: C.E.R.A.S. Paris. **SR** University of Michigan Center for Research on Economic and Social Theory (CREST) Working Paper: 94-03; Department of Economics, University of Michigan, Ann Arbor, Michigan 48109. **PG** 24. **PR** \$4.00; payable to the Department of Economics. **JE** C72, C78, D82, D44. **KW** Auction Design. Bidding Strategies. Externalities.

AB A fundamental assumption in the vast literature on optimal auction design is that agents' final payoffs are determined solely by whether or not they obtain the auctioned good, and by the payments made as required by the rules of the auction (see, for example, Myerson (1981), and Milgrom and Weber (1982)). The possibility that the auctioned good might play a role in future interaction among the auction's participants is excluded. There are many situations, however, in which an auction's participants interact after the close of the auction, and where the outcome of the auction affects the nature of their future interaction. Buyers must take this into account when devising bidding strategies; the seller must design the auction accordingly. This paper studies the model of auctions with externalities, and while doing so develops techniques that we believe will be valuable in the understanding of other mechanism design problems.

Stanczak, Kazimierz

PD July 1994. **TI** A Benefit of Imperfect Competition Under Price Controls. **AA** University of California, Los Angeles. **SR** University of California, Los Angeles Department of Economics Working Paper: 713; Department of Economics, University of California, Los Angeles, 2263 Bunche, Los Angeles, CA 90024. **PG** 13. **PR** \$5.00. **JE** D43, D61, L51. **KW** Price Controls. Imperfect Competition. Welfare.

AB We study welfare implications of imperfect competition in a general equilibrium model of an economy, in which price controls give rise to queuing and black markets. We show that an increase in monopoly power enjoyed by the sellers of differentiated varieties reduces the deadweight loss of leisure. Also, under imperfect competition, even an adjustment of a price ceiling that fails to bring it up to the market level is successful in completely eliminating waiting. These results have relevance for command systems, rent controls, and the current debate on price controls in the U.S. health care system.

PD July 1994. **TI** Endogenous Market Power and Adjustment Under Fixed Exchange Rates: Interpreting the Polish Experience 1990-1991. **AA** University of California, Los Angeles. **SR** University of California, Los Angeles Department of Economics Working Paper: 714; Department of Economics, University of California, Los Angeles, 2263 Bunche, Los Angeles, CA 90024. **PG** 24. **PR** \$5.00. **JE** F31, F32, F41, E51. **KW** Devaluation. Exports. Monetary Policy. Foreign Exchange.

AB This paper describes and models Poland's adjustment in 1990-1991. The model assigns a crucial role to the market power implications of the devaluation-related changes in the distribution of domestic output. Under certain assumptions, a relative reallocation of output of the domestic monopolized sectors away from consumption and towards further use as inputs in the export sector is shown to increase markups, thus reducing employment and the real wage. This makes a devaluation contractionary in the short run. The policy implication calls for a devaluation under capital immobility to be accompanied by an equiproportional injection of nominal money.

Stangier, Peter

TI Weighted Fractional and Integral k-Matching in Hypergraphs. **AU** Srivastav, Anand; Stangier, Peter.

Stapleton, Richard C.

TI Who Buys and Who Sells Options: The Role of Options in a General Equilibrium Model with Background Risk. **AU** Franke, Gunter; Stapleton, Richard C.; Subrahmanyam, Marti G.

TI A Simple Technique for the Valuation and Hedging of American Options. **AU** Ho, T. S.; Stapleton, Richard C.; Subrahmanyam, Marti G.

Starr, Ross M.

TI Liquidity of the Treasury Bill Market and the Term Structure of Interest Rates. **AU** Shen, Pu; Starr, Ross M.

Stavins, Robert N.

PD March 1994. **TI** Market Barriers Market Failures, and the Energy Efficiency Gap. **AU** Stavins, Robert N.; Jaffe, Adam B. **AA** Stavins: Harvard University. Jaffe: Harvard University and National Bureau of Economic Research. **SR** Harvard John F. Kennedy School of Government Faculty Research Working Paper Series: R94-8; John F. Kennedy School of Government, Harvard University, 79 John F. Kennedy Street, Cambridge, MA 02138. **PG** 16. **PR** no charge. **JE** H42, L94, L95, Q41, D61. **KW** Energy. Efficiency. Optimality.

AB As renewed attention has been given by policy makers to energy conservation issues, it has frequently been asserted that there exists an "energy efficiency gap" between actual and optimal energy use. The critical question is how to define the optimal level of energy efficiency. This paper seeks to disentangle some confusing strands of argument that are frequently brought to bear on this question, by identifying the major conceptual issues that determine the set of feasible answers. We identify five separate and distinct notions of "optimality:" the economists' economic potential, the technologists' economic potential, hypothetical potential, the narrow social optimum, and the true social optimum. Each of

these has associated with it a corresponding definition of the energy efficiency gap. Our analysis demonstrates that necessary preconditions for identifying the right measure of the energy efficiency gap include understanding and disentangling market-failure and non-market-failure explanations for the gradual diffusion of energy-efficient technologies.

Steel, M.

TI Fourier Calculus on Finite Sets and Evolutionary Trees. **AU** Erdoes, Peter L.; Steel, M.; Szekely, Laszlo A.

TI Spectral Analysis and a Closest Tree Method for Genetic Sequences. **AU** Erdoes, Peter L.; Hendy, M.; Steel, M.; Szekely, Laszlo A.

TI The Combinatorics of Evolutionary Trees - A Survey. **AU** Erdoes, Peter L.; Steel, M.; Szekely, Laszlo A.

Steger, Angelika

TI Counting H-Free Graphs. **AU** Proemel, Hans-Juergen; Steger, Angelika.

Stehm, Jeff

TI An Overview of the Secondary Market for U.S. Treasury Securities in London and Tokyo. **AU** Madigan, Brian; Stehm, Jeff.

Stratmann, Thomas

PD August 1994. **TI** How Reelection Constituencies Matter: Evidence From Political Action Committees' Contributions and Congressional Voting. **AA** Montana State University and University of Chicago. **SR** University of Chicago Center for the Study of the Economy and the State Working Paper: 97; Center for the Study of the Economy and the State University of Chicago, 1101 East 58th Street, Chicago, IL 60637. **PG** 40. **PR** \$3.00; make check payable to "The University of Chicago." **JE** D72, D73. **KW** Political Action Committees. Congressional Voting. Contribution Strategies.

AB This paper presents evidence suggesting that voting in the U.S. Congress and contribution strategies of Political Action Committees (PAC's) are not guided by the median voter model but a model that emphasizes the characteristics of legislators' unobserved reelection constituencies. This paper identifies which legislators of a given party have conservative or liberal reelection constituencies. The proposed method indicates that the importance of party affiliation for congressional voting differs for legislators with identical party affiliation. Differences are caused by dissimilar characteristics of their reelection constituencies. The proposed model implies distinct patterns of giving by corporate and labor PAC's to legislators of the same party with dissimilar reelection constituencies. The evidence is consistent with the proposed theory and is consistent with the objective of PAC's to influence congressional decisions and assemble a voting majority in Congress. For example, consistent with the hypothesis that Democrats with conservative support constituencies have higher supply prices to vote in labor interests, I find that labor PAC's contribute heavily to those Democratic legislators with conservative reelection constituencies.

Subrahmanyam, Marti G.

TI Who Buys and Who Sells Options: The Role of Options

in a General Equilibrium Model with Background Risk. AU Franke, Gunter; Stapleton, Richard C.; Subrahmanyam, Marti G.

TI A Simple Technique for the Valuation and Hedging of American Options. AU Ho, T. S.; Stapleton, Richard C.; Subrahmanyam, Marti G.

Surette, Leon

PD not available. TI Deconstruction: Whence it Came and Whither it Tendeth. AA University of Western Ontario. SR University of Western Ontario Papers in Political Economy: 49; Department of Economics, Social Science Centre, University of Western Ontario, London, Ontario, CANADA N6A 5C2. PG 19. PR no charge. JE not available. KW not available. AB not available.

Szekely, Laszlo A.

TI Fourier Calculus on Finite Sets and Evolutionary Trees. AU Erdoes, Peter L.; Steel, M.; Szekely, Laszlo A.

TI Effective Lower Bounds for Crossing Number, Bisection Width and Balanced Vertex Separator in Terms of Symmetry. AU Shahrokhi, Farhad; Szekely, Laszlo A.

TI Algorithms and Min-Max Theorems for Certain Multiway Cuts. AU Erdoes, Peter L.; Szekely, Laszlo A.

TI Spectral Analysis and a Closest Tree Method for Genetic Sequences. AU Erdoes, Peter L.; Hendy, M.; Steel, M.; Szekely, Laszlo A.

TI The Combinatorics of Evolutionary Trees - A Survey. AU Erdoes, Peter L.; Steel, M.; Szekely, Laszlo A.

Szigeti, Zoltan

TI On Packing T-Cuts. AU Frank, Andras; Szigeti, Zoltan.

PD June 1993. TI On Seymour Graphs. AA Eotvos University. SR Universitat Bonn Sonderforschungsbereich 303 - Discussion Paper: 93803; Sonderforschungsbereich 303 an der Universitat Bonn, Adenauerallee 24-42, D-5300 Bonn 1, DEUTSCHLAND. PG 10. PR no charge. JE C44, C60. KW Seymour Graphs. Graph Theory.

AB Following A.M.H. Gerards, we call a graph G a Seymour graph if for each even set T of vertices in G the minimum length of a T -join is equal to the maximum number of pairwise edge-disjoint T -cuts. Gerards has given a sufficient condition for a graph G to be a Seymour graph, forbidding odd $K_{sub 4}$ and odd prism as a subgraph in G . We prove a slightly weaker sufficient condition for this property, namely it is enough to forbid those odd $K_{sub 4}$ and odd prism which are not Seymour graphs. Our proof is entirely different from the proof of Gerards.

Takahashi, Takaaki

TI Self-Defeating Regional Concentration. AU Matsuyama, Kiminori; Takahashi, Takaaki.

Tansel, Aysit

PD March 1993. TI School Attainment, Parental Education and Gender in Cote d'Ivoire and Ghana. AA Middle East Technical University and Yale University. SR Yale Economic Growth Center Discussion Paper: 692;

Economic Growth Center, Yale University, Box 208269, Yale Station, New Haven CT 06520. PG 38. PR \$2.00 + postage. JE D12, I21, J24. KW Education, Gender, School Attainment.

AB This study investigates the factors that influence a household's decision to send their children to school in Cote d'Ivoire and Ghana. The questions that are addressed are as follows: What is the relative impact of parental education on the schooling attainment of their children and do these factors affect schooling of male and female children differently? How do the costs of schooling represented by the distances to the nearest schools affect the demand for schooling? And do these effects differ by the gender of the children? These relationships are explored at the three levels of schooling, namely the primary, middle and the post middle (high school or tertiary education) levels attained by the children. The set of socioeconomic individual, household, and community characteristics that are used to explain schooling attainment include parents' education, household income, costs of schooling, and rural or urban locations of residence. Models are estimated for male and female children separately to allow for the possibility that the determinants of schooling differ for them since substantial differences are observed in the educational achievement of men and women. The data used comes from the Living Standard Measurement Study (LSMS) surveys implemented in Cote d'Ivoire (1985, 1986 and 1987) and two years of surveys from Ghana (1987-1988 and 1988-1989) are analyzed.

Telser, Lester G.

PD August 1994. TI On the Great Depression. AA University of Chicago. SR University of Chicago Center for the Study of the Economy and the State Working Paper: 99; Center for the Study of the Economy and the State University of Chicago, 1101 East 58th Street, Chicago, IL 60637. PG 50. PR \$3.00; make check payable to "The University of Chicago.". JE E42, E44, E52, E58, G21. KW Great Depression. Reconstruction Finance Corporation. Banking System.

AB The severity of the Great Depression was due to the loss of confidence engendered by the collapse of the banking system in Winter 1933. Dissatisfaction with Federal Reserve actions led President Hoover and the Congress in January 1932 to create the Reconstruction Finance Corporation that was intended to lend primarily to banks. Jockeying for political advantage overcame good economic policy and the effects of two Federal authorities extending credit to the banking system became a catastrophe by March 4, 1933. A strong case can be made that John Nance Garner, Speaker of the House, who could have been a statesman but was instead a politician, bears responsibility in August 1932 for opening the last act of the tragedy.

Theler, Jean-Paul

PD May 1994. TI Asset Pricing and Trading Volume in Heterogeneous Agent Models With Incomplete Markets. AA Universite de Lausanne. SR Universite de Lausanne Cahiers de Recherches Economiques: 9404; Departement d'Econometrie et d'Economie Politique, Univerite de Lausanne, BFSH1 - Dorigny, CH-1015 Lausanne, SWITZERLAND. PG 24. PR no charge. JE G19, E21. KW Asset Pricing. Trading Volume. Heterogeneity.

AB This paper develops a model with heterogeneous agents and explores its implications for transaction volume and price volatility of risky assets. Our agents differ in their levels of risk aversion and initial resources. Market incompleteness is introduced by assuming that one part of agent income cannot be contracted upon or is non-marketable. Agents face both aggregate and idiosyncratic uncertainties; aggregate uncertainty in the form of dividend and systematic labor income risk, idiosyncratic uncertainty on labor income risk. Differences in preferences or in initial wealth distribution are found to have only a small influence on the equilibrium outcome once idiosyncratic risk is introduced. This suggests that the assumption of ex ante identical agents is a good working hypothesis and does not reduce the validity of a model's results.

Thomas, Duncan

TI Does Head Start Make a Difference? **AU** Currie, Janet; Thomas, Duncan.

Thomason, Andrew

TI An Extremal Function for the Achromatic Number. **AU** Bollobas, Bela; Reed, Bruce; Thomason, Andrew.

Thum, Marcel

TI Too Much Conformity? A Hotelling Model of Local Public Goods Supply. **AU** Hohaus, Bolko; Konrad, Kai; Thum, Marcel.

Tirole, Jean

TI Formal and Real Authority in Organizations. **AU** Aghion, Philippe; Tirole, Jean.

Tokarick, Stephen

TI The Trade and Welfare Consequences of U.S. Export-Enhancing Tax Provisions. **AU** Rousslang, Donald; Tokarick, Stephen.

Tommasi, Mariano

PD August 1994. **TI** Inflation and the Informativeness of Prices: Microeconomic Evidence From High Inflation. **AA** University of California, Los Angeles. **SR** University of California, Los Angeles Department of Economics Working Paper: 718; Department of Economics, University of California, Los Angeles, 2263 Bunche, Los Angeles, CA 90024. **PG** 24. **PR** \$5.00. **JE** E31, D81, D84, D43. **KW** Inflation. Information. Search. Forecast.

AB I study the effect of inflation on the ability of economic agents to forecast real prices, with microeconomic data from Argentina, 1990-1992. The evidence favors the view that inflation degrades the informational content of real prices. Several rules for forecasting real prices are shown to perform worst at higher inflation. This suggests that inflation (at least high-inflation) has "IO" effects usually ignored in macroeconomic assessments of the effects of inflation.

Topel, Robert H.

TI Economic Impact of International Migration and the Economic Performance of Migrants. **AU** LaLonde, Robert J.; Topel, Robert H.

Trajtenberg, Manuel

TI A Time to Sow and a Time to Reap: Growth Based on General Purpose Technologies. **AU** Helpman, Elhanan; Trajtenberg, Manuel.

Triesch, Eberhard

PD March 1993. **TI** Halving Graphs in NP-Complete. **AA** University of Bonn. **SR** Universitat Bonn Sonderforschungsbereich 303 - Discussion Paper: 93790; Sonderforschungsbereich 303 an der Universitat Bonn, Adenauerallee 24-42, D-5300 Bonn 1, DEUTSCHLAND. **PG** 7. **PR** no charge. **JE** C44. **KW** Edge Search. Graph Theory. NP-Completeness.

AB Motivated from certain search problems, we consider the following decision problem: Given a simple graph G , does there exist a subset of the vertex set which is incident to exactly half the number of edges of G ? The problem is shown to be NP-complete.

Tsiddon, Daniel

TI Staggering and Synchronization in Price-Setting: Evidence From Multiproduct Firms. **AU** Lach, Saul; Tsiddon, Daniel.

Tuza, Zsolt

TI The Expected Relative Error of the Polyhedral Approximation of the Max-Cut Problem. **AU** Poljak, Svatopluk; Tuza, Zsolt.

Udell, Gregory

TI The Effect of Bank Capital Requirements on Bank Off-Balance Sheet Financial Innovations. **AU** Jagtiani, Julapa; Saunders, Anthony; Udell, Gregory.

Unni, Jeemol

PD June 1993. **TI** Labor Supply Decisions of Married Women in Rural India. **AA** Yale University. **SR** Yale Economic Growth Center Discussion Paper: 691; Economic Growth Center, Yale University, Box 208269, Yale Station, New Haven CT 06520. **PG** 29. **PR** \$2.00 + postage. **JE** J21, J23. **KW** Female Labor Supply. Labor Market. India.

AB This paper analyzes the job choice decision of married women in rural India as a joint decision between spouses in a household. The labor participation decision of married women is not based on their individual characteristics alone but is influenced also by their spouses' characteristics and the household's asset structure. Two models of labor participation are estimated: the first defines work only as market wage labor and the second defines work broadly to include wage and self-employment. Interesting evidence of a differential impact of physical capital, as opposed to human capital, on the work participation decision of the married women is observed. Education of both spouses tends to raise the reservation wage and encourage withdrawal of the wife from participation, mainly in wage employment. These results could be explained if in the rural labor market in India, at relatively low levels of female education, the links between the wage rates available to women and their levels of education are weak. However, household's access to physical capital tended to encourage work participation of the married women, particularly in self-employment.

Valtr, P.

TI Linear Sequences. AU Klazar, M.; Valtr, P.

Van Wassenhove, L. N.

TI The Impact of Knowledge on Quality. AU Mukherjee, A. S.; Van Wassenhove, L. N.

Varian, Hal R.

PD May 1994. TI Entry and Cost Reduction. AA University of Michigan. SR University of Michigan Center for Research on Economic and Social Theory (CREST) Working Paper: 94-04; Department of Economics, University of Michigan, Ann Arbor, Michigan 48109. PG 11. PR \$4.00; payable to the Department of Economics. JE D43, F12, L13, L52. KW Industrial Organization. Competitiveness. Entry.

AB There is a lot of anecdotal evidence that entry of new firms reduces not only prices but also costs. However, it is far from clear how this cost-reduction works. In this paper I investigate three models of how entry may cause cost reduction: managerial incentives, survival of the fittest, and imitation. The models have somewhat different implications for social welfare.

TI Economic FAQ's About the Internet. AU MacKie-Mason, Jeffrey K.; Varian, Hal R.

Vereecke, A.

TI Strategies for International Manufacturing. AU De Meyer, A.; Vereecke, A.

Vernon, Raymond

PD March 1994. TI How American is the American Corporation? AA Harvard University. SR Harvard John F. Kennedy School of Government Faculty Research Working Paper Series: R94-9; John F. Kennedy School of Government, Harvard University, 79 John F. Kennedy Street, Cambridge, MA 02138. PG 41. PR no charge. JE F13, F23, F42, H11. KW Multinational Firms. Role of Government. Foreign Trade.

AB Firms in the United States that are units in a multinational network now account for over 70 percent of the U.S. output of goods and services and even a larger share of its foreign trade. Governments all over the world look to such networks to promote their national objectives such as creating jobs, contributing to security, generating public revenues, and so on. Yet units in multinational networks are exposed to the pressures of more than one government. These networks accordingly find themselves placed in a mediating role not of their choosing. Yet there is an overwhelming reluctance on the part of both governments and firms to address that situation as a basic systemic issue. Instead, the problems generated by these contradictions are treated as limited functional issues, with results that are unsatisfactory both for governments and firms.

Vishny, Robert W.

TI Contrarian Investment, Extrapolation, and Risk. AU Lakonishok, Josef; Shleifer, Andrei; Vishny, Robert W.

TI Voucher Privatization. AU Boycko, Maxim; Shleifer, Andrei; Vishny, Robert W.

von Weizsaecker, Robert

PD April 1992. TI Bildung und Theorie der Lebenseinkommensverteilung. AA University of Halle-Wittenberg. SR Universitat Bonn Sonderforschungsbereich 303 - Discussion Paper: A-364; Sonderforschungsbereich 303 an der Universitat Bonn, Adenauerallee 24-42, D-5300 Bonn 1, DEUTSCHLAND. PG 22. PR no charge. JE D31, D91. KW Income Distribution. Political Effects. Distributive Policy.

AB This paper is written in a language other than English.

PD December 1993. TI Public Pension Reform, Demographics, and Inequality. AA University of Halle. SR Universitat Bonn Sonderforschungsbereich 303 - Discussion Paper: A-434; Sonderforschungsbereich 303 an der Universitat Bonn, Adenauerallee 24-42, D-5300 Bonn 1, DEUTSCHLAND. PG 21. PR no charge. JE D31, H55, J18. KW Public Pensions. Demographics. Wealth Distribution. Public Policy.

AB Starting from a simple, descriptive model of individual income, an explicit link between the age composition of a population and the personal distribution of incomes is established. Demographic effects on income inequality are derived. Next, a pay-as-you-go financed state pension system is introduced. The resulting government budget constraint entails interrelations between fiscal and demographic variables, causing an additional, indirect demographic impact on the distribution. This is shown not only to change, but in some cases even to reverse, the distributional incidence of an aging population. Several policy conflicts arise. The point is reemphasized by an analysis of the German Pension Reform Act of 1992. The study reveals that the design of the pension formula decisively drives the relation between demographics and inequality.

Vygen, Jens

PD July 1993. TI NP-Completeness of Some Edge-Disjoint Paths Problems. AA University of Bonn. SR Universitat Bonn Sonderforschungsbereich 303 - Discussion Paper: 93805; Sonderforschungsbereich 303 an der Universitat Bonn, Adenauerallee 24-42, D-5300 Bonn 1, DEUTSCHLAND. PG 8. PR no charge. JE C44, C60. KW NP-Completeness. Edge-Disjoint Paths. Graph Theory.

AB We prove: The directed edge-disjoint paths problem is NP-complete, even if (a) the underlying graph G is acyclic, the demand graph H consists just of three sets of parallel edges and $G + H$ is Eulerian, or (b) $G + H$ is planar, or (c) G is planar and acyclic. (d) The undirected edge-disjoint paths problem is NP-complete, even if $G + H$ is Eulerian and H consists just of three sets of parallel edges.

Weidmann, Jens

TI Asymmetry in the EMS Revisited: Evidence From the Causality Analysis of Daily Eurorates. AU Henry, Jerome; Weidmann, Jens.

Weiss, Yoram

PD August 1994. TI Immigration, Search and Loss of Skill. AU Weiss, Yoram; Gotlibovski, Menachem. AA Weiss: Tel Aviv University. Gotlibovski: Tel Aviv University and Histadrut-General Federation of Labor in Israel. SR Tel Aviv Sackler Institute for Economic Studies Working Paper: 18/94; Department of Economics, Tel Aviv University,

Ramat Aviv 69978, ISRAEL. PG 46. PR no charge. JE D83, J24, J31, J61. KW Immigration. Search. Loss of Skill. Human Capital.

AB Starting in 1990, Israel has experienced a major immigration wave of highly skilled workers from the former Soviet Union. This wave is without precedent in terms of the imbalances it created in some high skill occupations. Consequently, only 30 percent of the immigrants who worked in the former U.S.S.R. as scientists, engineers or managers found similar jobs within the first three years of their stay in Israel. The paper examines the loss of human capital suffered by the immigrants. We construct a model of job search and estimate its parameters, using a sample of 469 male immigrants who reported their labor market experience, during the period 1990-1992. Our main finding is that the estimated average loss of years of schooling associated with the short-run adjustment, which includes a substantial move down the occupational ladder, is 1.52 years, or 10 percent of their average years of formal schooling. The loss among the highly educated, with 16 years or more years of schooling, is 2.40 years or 14 percent of their average years of formal schooling.

Weninger, John

PD September 1993. TI Implications of Narrow Banking for Monetary Policy. AA Federal Reserve Bank of New York. SR Federal Reserve Bank of New York Research Paper: 9327; Research Department - Room 901, Federal Reserve Bank of New York, 33 Liberty Street, New York, NY 10045. PG not available. PR no charge. JE G36, G31, E58. KW Narrow Banking. 100% Reserves. Monetary Policy. Bank Runs.

AB Narrow banking (or a variation on this theme, 100 percent reserve requirements) has been frequently proposed as an alternative to the current deposit insurance arrangements. However, the monetary policy implications of these proposals have not always been fully appreciated. In this article, we will review the potential advantages claimed for narrow banking in terms of deposit insurance reform and also explore in considerable detail the major disadvantages which come largely in the area of monetary policy. The main conclusion of this paper is that the problems that could be created for monetary policy are potentially so great that narrow banking probably would not be a viable approach to insurance reform, even though certain aspects of this approach do have some intuitive appeal.

Werner, Hans Joachim

PD 1993. TI When is $B'A'$ a Generalized Inverse of AB ? AA University of Bonn. SR Universitat Bonn Sonderforschungsbereich 303 - Discussion Paper: B-266; Sonderforschungsbereich 303 an der Universitat Bonn, Adenauerallee 24-42, D-5300 Bonn 1, DEUTSCHLAND. PG 7. PR no charge. JE C63. KW Factorization. Generalized Inverse.

AB In practice, factorizations of a generalized inverse often arise from factorizations of the matrix which is to be inverted. In addition to full rank factorizations, normal factorizations, and singular value decompositions (SVD), there are other factorizations of particular matrices that are natural to certain problems, for instance in statistics. Answers to questions like "when is $B'A'$ a generalized inverse of AB ?" may thus be a computational tool. Also, they are of significant interest because they provide us with insights into the g -inversion of

matrix products.

PD 1993. TI What is $(AB)'$? AA University of Bonn. SR Universitat Bonn Sonderforschungsbereich 303 - Discussion Paper: B-267; Sonderforschungsbereich 303 an der Universitat Bonn, Adenauerallee 24-42, D-5300 Bonn 1, DEUTSCHLAND. PG 6. PR no charge. JE C63. KW Factorization. Projector. g -Inverse. AB not available.

Wesche, Katrin

PD February 1994. TI Aggregierte Geldnachfrage in Europa: Eine Empirische Untersuchung der Geldmenge M1. AA University of Bonn. SR Universitat Bonn Sonderforschungsbereich 303 - Discussion Paper: B-269; Sonderforschungsbereich 303 an der Universitat Bonn, Adenauerallee 24-42, D-5300 Bonn 1, DEUTSCHLAND. PG 34. PR no charge. JE E41, F36. KW Money Demand. Aggregation. Cointegration. Monetary Integration.

AB The paper investigates the existence of a stable money demand function for four major European countries. Estimation of individual and aggregate money demand functions is performed using the cointegration framework developed by Engle and Granger (1987). The results for aggregate and individual equations are compared with respect to parameter values, explanatory power, and forecasting performance.

White, Michelle J.

PD December 1993. TI Corporate Bankruptcy as a Filtering Device: Chapter 11 Reorganizations and Out-of-Court Debt Restructurings. AA University of Michigan. SR University of Chicago Center for the Study of the Economy and the State Working Paper: 90; Center for the Study of the Economy and the State University of Chicago, 1101 East 58th Street, Chicago, IL 60637. PG 36. PR \$3.00; make check payable to "The University of Chicago." JE K22, D21, D43, L21. KW Bankruptcy. Debt Restructuring. Economic Efficiency.

AB In this paper, I present a model of why things go wrong in Chapter 11. The model assumes that there are two types of firms in financial distress: those that should liquidate since they are economically inefficient and those that should remain in operation since they are economically efficient. From an efficiency standpoint, the goal of corporate bankruptcy is to shut down the former while saving the latter (i.e., to filter out inefficient firms). In the U.S., Chapter 7 is intended to liquidate economically inefficient firms in bankruptcy, while Chapter 11 is designed to allow firms that are economically efficient despite their financial distress an opportunity to reorganize in bankruptcy. However, it is difficult to identify which firms are which. As a result, the bankruptcy procedure operates with error: type I error occurs if inefficient firms are saved in Chapter 11, while type II error occurs if efficient firms shut down in Chapter 7. The dilemma in bankruptcy is that, given imperfect information, it may be impossible to save all efficient failing firms and also shut down all inefficient failing firms. Any policy designed to shut down inefficient failing firms will also shut down some efficient but failing firms. And any policy designed to save efficient but failing firms will also save some inefficient firms. In the paper I present a game theoretic model of the bankruptcy process which explores the filtering properties of the combined U.S. Chapter 7/Chapter 11 bankruptcy policy. Managers of failing firms have the right to choose between filing under Chapter 7 or Chapter 11. If they file under Chapter

11, then they choose between proposing reorganization plans which pay low versus high amounts to creditors. Managers are assumed to know whether their firms are efficient or inefficient at the time they file for bankruptcy, but creditors do not. There are two possible outcomes: perfect filtering and filtering failure. Perfect filtering occurs if there is a separating equilibrium under which all efficient firms file under Chapter 11 and all inefficient firms file under Chapter 7. Filtering failure occurs if there is a pooling equilibrium under which some or all inefficient firms file under Chapter 11 along with the efficient firms. Filtering failure may occur because efficient firms benefit from appearing to be less efficient than they are and because inefficient firms benefit from appearing to be more efficient than they are. Efficient firms benefit from appearing to be inefficient since this allows them to pay less to creditors in reorganization; while inefficient firms benefit from appearing to be efficient since this allows them to obtain the benefits of reorganizing. The model is also extended to consider the filtering properties of debt restructurings.

Wierenga, Berend

TI An Integrative Perspective on Designing Management Support Systems. **AU** Dutta, Soumitra; Wierenga, Berend; Dalebout, Arco.

Wintrobe, Ronald

PD December 1993. **TI** From Expressionism to Kitsch: Ethnic and Intergenerational Conflict and the Rise of Dictatorship. **AA** University of Western Ontario. **SR** University of Western Ontario Papers in Political Economy: 40; Department of Economics, Social Science Centre, University of Western Ontario, London, Ontario, CANADA N6A 5C2. **PG** 30. **PR** no charge. **JE** D11, D23, D73, J15. **KW** Ethnicity. Political Inaction. Property Rights.

AB In this paper, I attempt to use simple tools of economic theory to understand ethnicity, ethnic conflict, and nationalism and their role in destabilizing democracy under the Weimar regime. The paper builds on previous work on ethnicity (Wintrobe 1993), and on political inaction in democratic systems (Howitt and Wintrobe 1993a and b). The starting point of the analysis is a set of circumstances in which there are gains from trade, as in standard neo-classical theory, but that property rights are not costlessly enforceable. Once the latter fiction is discarded, the situation is that people still wish to exchange, but they always have to worry about being cheated. There are reputation mechanisms for solving this problem (Klein and Leffer (1981), Shapiro (1983)), but they tend to be expensive. Similar problems arise in politics, interpreted as political exchange in the absence of legal enforcement (one cannot sue a politician in court for breaking a campaign promise), and within families (parents cannot sue their children for not supporting them in their old age).

Wizman, Thierry A.

TI What Moves the Discount on Country Equity Funds? **AU** Hardouvelis, Gikas A.; La Porta, Rafael; Wizman, Thierry A.

Woodford, Michael

TI Rational Asset Pricing Bubbles. **AU** Santos, Manuel; Woodford, Michael.

Wu, Ping X.

PD May 1994. **TI** One-Sided Hypothesis Testing in Econometrics: A Survey. **AU** Wu, Ping X.; King, Maxwell L. **AA** Wu: University of Melbourne. King: Monash University. **SR** Monash Department of Econometrics Research Working Paper: 6/94; Department of Econometrics, Monash University, Clayton, Victoria 3168, AUSTRALIA. **PG** 38. **PR** no charge. **JE** C12, C51, C52. **KW** Kuhn-Tucker Tests. Likelihood Ratio Tests. Linear Regression. Point Optimal Tests.

AB Any model is accompanied by a set of assumptions. These assumptions are based either on the underlying theory of the phenomena being modelled or on stylized statistical evidence, or more commonly on both. These, along with functional considerations such as variances being positive, often imply that values of some parameters characterizing a model are restricted to one side of a point in the parameter space. This information can be used to improve the power of hypothesis testing procedures. In this paper, we discuss some recent developments on testing against such one-sided alternative hypotheses with particular emphasis on the econometrics literature. The focus is on two main approaches: that based on maximum likelihood estimation and that based on local power optimization facilitated by the generalized Neyman-Pearson lemma. Both single parameter and multi-parameter testing problems are considered.

Yosha, Oved

PD April 1994. **TI** Competitive Disadvantage Induced by Disclosure Regulations: A Welfare Analysis. **AA** Brown University. **SR** Brown University Department of Economics Working Paper: 94-11; Department of Economics, Brown University, Providence, RI 02912. **PG** 19. **PR** no charge. **JE** D82, G28, K22, L51. **KW** Disclosure. Regulations. Welfare.

AB Business firms are often concerned about the effect the disclosure of private information would have on their competitive positions. The question arises whether the Securities Act of 1933, the Securities Exchange Act of 1934, and the institution of the Securities and Exchange Commission caused damage to small, innovative firms while protecting larger, more established firms. A simple model is constructed to address this question. For a plausible specification of the model it is shown that although some innovators are hurt ex-post (after having learned their private information), all firms, including innovators, are made better off in the ex-ante sense.

Zarazaga, Carlos

PD July 1994. **TI** Revenues From the Inflation Tax and the Laffer Curve: Some Preliminary Empirical Findings for Argentina and Israel. **AA** Federal Reserve Bank of Philadelphia. **SR** Federal Reserve Bank of Philadelphia Research Working Paper: 94-12; Working Papers, Department of Research, Federal Reserve Bank of Philadelphia, 10 Independence Mall, Philadelphia, PA 19106. **PG** 25. **PR** no charge except overseas airmail, \$2.00; checks/money orders in U.S. funds payable to Federal Reserve Bank of Philadelphia. **JE** C32, E31, H21, H22. **KW** Seigniorage. Inflation Tax. Laffer Curve. Generalized Method of Moments.

AB The paper addresses the issue of whether government revenues from the inflationary tax (seigniorage) were decreasing in the inflation rate during the high inflation periods experienced by Argentina and Israel in the 1980's and 1990's.

The question is important because available theoretical models appeal to a "Laffer curve" for seigniorage to explain those experiences. The paper explores the issue empirically with a technique, the generalized method of moments, that could potentially circumvent the serious identification difficulties found in other studies. The study did not find strong evidence of the presence of a Laffer curve for seigniorage in either of those two countries.

Zenner, Markus

PD March 1994. TI Prediction Error Learning in Univariate Generalized Autoregressive Models. AA University of Bonn. SR Universitat Bonn Sonderforschungsbereich 303 - Discussion Paper: B-273; Sonderforschungsbereich 303 an der Universitat Bonn, Adenauerallee 24-42, D-5300 Bonn 1, DEUTSCHLAND. PG 41. PR no charge. JE C22, C62, D83, D84. KW Rational Expectations. Learning. Model Specification.

AB The rational expectations hypothesis is supported if rational expectations are stable with respect to reasonable learning procedures. We consider within a univariate generalized autoregressive model a class of prediction error based learning procedures, which contain as a special case the OLS-procedure. We derive a concept of stability, characterize stable and unstable rational expectations equilibria, determine the possible limit outcomes of the learning procedures, and show that there is convergence with unit or only positive probability, depending on the respective feedback function which maps the perceived into the true law of motion of the endogenous variable. Finally, in view of the plausibility of the learning procedures, we determine the rate of convergence.

Zhang, Z. John

TI Competitive Coupon Targeting. AU Shaffer, Greg; Zhang, Z. John.