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. The AWPE Database is available as part of EconLit, the American Economic Association's on-line database and CD-ROM. For more information please contact Cambridge University Press (Call 212/924-3900).

Abe, Masahiro

TI Maternity Leave Policies and Women's Employment After Childbirth: Evidence from the United States, Britain and Japan. **AU** Waldfogel, Jane; Higuchi, Yoshio; Abe, Masahiro.

Abul Naga, Ramses H.

PD November 1997. **TI** Prediction and Determination of Houshold Permanent Income. **AU** Abul Naga, Ramses H.; Burgess, Robin. **AA** Abul Naga: University of Lausanne. Burgess: London School of Economics. **SR** STICERD, London School of Economics Discussion Papers Series: DARP/32; STICERD, Room R.415, London School of Economics and Political Science, Houghton Street, London WC2A 2AE, UK. **PG** 28. **PR** no charge. **JE** C31, D31, I30, O12. **KW** Permanent Income. Welfare Indicators. Determination. Living Standards. China.

AB This paper is about the determination and prediction of permanent income in household data. Standard static welfare indicators (e.g. per capita expenditure and income) are imperfect in this respect as they typically contain a high transitory component. The framework we employ is consistent with the permanent income hypothesis but is supplemented with a causes equation where unobservable permanent income is explicitly modeled as a function of causal variables which play a key part in its determination. Simultaneous estimation of the model allows us to compare how well different standard static welfare indicators identify permanent income but more importantly enables us to predict permanent income using information contained both in the causal variables and in the standard static welfare indicators. The paper is closed by an application of the methodology to household data from the rural sectors of two Chinese provinces.

PD January 1998. **TI** Prediction and Sufficiency in the Model of Factor Analysis. **AA** University of Lausanne. **SR** STICERD, London School of Economics Discussion Papers Series: DARP/31; STICERD, Room R.415, London School of Economics and Political Science, Houghton Street, London WC2A 2AE, UK. **PG** 24. **PR** no charge. **JE** C10, C40, C80, I30. **KW** Latent Variables. Factory Analysis. Sufficiency. Prediction. Living Standards.

AB We contrast two approaches to the prediction of latent variables in the model of factor analysis. The likelihood statistic is a sufficient statistic for the unobservables when sampling arises from the exponential family of distributions. Linear predictors on the other hand can be obtained as distribution-free statistics. We provide conditions under which a class of linear predictors is sufficient for the exponential family of distributions. We also examine various predictors in the light of the following criteria: (I) sufficiency, (II) mean-square error, and (III) unbiasedness and illustrate our results with the help of Chinese data on living standards.

Aggarwal, Rajesh

PD July 1996. **TI** Executive Compensation, Strategic Competition, and Relative Performance Evaluation: Theory and Evidence. **AU** Aggarwal, Rajesh; Samwick, Andrew. **AA** Aggarwal: Dartmouth College. Samwick: Dartmouth College and National Bureau of Economic Research. **SR** National Bureau of Economic Research Working Paper: 5648; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. Website: www.nber.org. **PG** 45. **PR** $5.00. **JE** J33, J41, J53, L13, L14. **KW** Contract Theory. Incentives. Oligopoly. Compensation.

AB This paper argues that strategic interactions between firms in an oligopoly can explain the puzzling lack of high-powered incentives in executive compensation contracts written by shareholders whose objective is to maximize the value of their shares. The authors derive the optimal compensation contracts for managers and demonstrate that the use of high-powered incentives will be limited by the need to soften product market competition. In particular, when managers can be compensated based on their own and their rivals' performance, the authors show that there will be an inverse relationship between the magnitude of high- powered incentives and the degree of competition in the industry. More competitive industries are characterized by weaker pay-performance incentives. Empirically, strong evidence is found of this inverse relationship in the compensation of executives in the United States. The authors conclude that strategic considerations can preclude the use of high-powered incentives.

Agulnik, Phil

TI Tax Relief and Partnership Pensions. **AU** Le Grand, Julian; Agulnik, Phil.

Akhavein, Jalal D.

PD January 1997. **TI** The Effects of Megamergers on Efficiency and Prices: Evidence from a Bank Profit Function. **AU** Akhavein, Jalal D.; Berger, Allen N.; Humphrey, David B. **AA** Akhavein: New York University. 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 Paper Series: 1997/09; Ms. Karen Blackwell, FEDS Secretary, Mail Stop 77, Federal Reserve Board, Washington, DC 20551. Website:

www.bog.frb.fed.us/pubs/feds. **PG** 64. **PR** no charge. **JE** G21, G28, L11, L41, L89. **KW** Banking. Mergers. Efficiency. Profitability. Antitrust.

AB This paper examines the efficiency and price effects of mergers by applying a frontier profit function to data on bank "megamergers". We find that merged banks experience a statistically significant 16 percentage point average increase in profit efficiency rank relative to other large banks. Most of the improvement is from increasing revenues, including a shift in outputs from securities to loans, a higher-valued product. Improvements were greatest for the banks with the lowest efficiencies prior to merging, which therefore had the greatest capacity for improvement. By comparison, the effects on profits from merger-related changes in prices were found to be very small.

Aksin, O. Zeynep

PD December 1996. **TI** Modeling a Phone Center: Analysis of a Multi-Channel Multi-Resource Processor Shared Loss System. **AU** Aksin, O. Zeynep; Harker, Patrick T. **AA** Aksin: INSEAD. Harker: University of Pennsylvania. **SR** INSEAD Working Papers: 97/57/TM; INSEAD, Research and Development Department, Boulevard de Constance, 77305 Fontainebleau, France. Website: www.insead.fr/Research. **PG** 38. **PR** no charge up to five copies, after five copies 18FF per working paper plus postage and VAT. **JE** L23, L96, M21. **KW** Loss Systems. Performance Measures. Blocking. Reneging. Telecommunications.

AB This paper presents a model for the study of operations at an inbound call center. The call center is modeled as a multi-class processor shared loss system, where the interacting effects of human, telecommunication and information technology resources are explicitly incorporated. Product form solutions for this type of system are provided along with expressions for performance measures like blocking and reneging. Some structural properties of system throughput are analyzed in an effort to pave the way for future optimization studies dealing with the design and management of phone centers.

PD December 1996. **TI** To Sell or Not to Sell: Determining the Tradeoffs Between Service and Sales in Retail Banking Phone Centers. **AU** Aksin, O. Zeynep; Harker, Patrick T. **AA** Aksin: INSEAD. Harker: University of Pennsylvania. **SR** INSEAD Working Papers: 97/58/TM; INSEAD, Research and Development Department; Boulevard de Constance; 77305 Fontainebleau, France. Website: www.insead.fr/Research. **PG** 34. **PR** no charge up to five copies, after five copies 18FF per working paper plus postage and VAT. **JE** G21, L21, L84. **KW** Retail Banking. Phone Centers. Cross Selling. Customer Service.

AB This paper explores the tradeoffs between service and sales in phone center operations in retail banking, and develops an analytical approach to quantify the costs and benefits of moving towards a sales-focused operation. Empirical evidence from retail banking call centers is provided, along with a numerical example demonstrating the use of the analytical approach in the context of one major retail banking call center. It is shown that in addition to its visible costs, like training and technology to build support systems for sales activities, cross-selling can have detrimental effects on customer service due to the additional load it creates on the system. It is furthermore demonstrated that designing the right process and adopting human resource practices that support this design are critical in determining the success of a cross-sell program.

PD March 1997. **TI** Computing Performance Measures in a Multi-Class Multi-Resource Processor-Shared Loss System. **AU** Aksin, O. Zeynep; Harker, Patrick T. **AA** Aksin: INSEAD. Harker: University of Pennsylvania. **SR** INSEAD Working Papers: 97/36/TM; INSEAD, Research and Development Department, Boulevard de Constance, 77305 Fontainebleau, France. Website: www.insead.fr/Research. **PG** 29. **PR** no charge up to five copies, after five copies 18FF per working paper plus postage and VAT. **JE** C15, C63, D23. **KW** Loss Systems. Monte Carlo. Convolutions. Computational Techniques. Performance Measures.

AB This paper develops methods to compute performance measures in a specific type of loss system with multiple classes of customers sharing the same processor. Such systems arise in the modeling of a call center or phone center, where the performance measures of interest are the blocking probability of a call and the reneging probability of customers that are put on hold. Expressions for these performance measures have been derived in previous work by the authors. Given the difficulty of computing these performance measures for realistic systems, this paper proposes two different approaches to simplify this computation. The first method introduces the idea of multi-dimensional convolutions, and uses this approach to compute exact blocking and approximate reneging probabilities along with bounds on the latter probabilities. The second method establishes an adaptation of the Monte Carlo summation technique in order to obtain good estimates of blocking and reneging probabilities in large systems.

Alesina, Alberto

PD August 1996. **TI** International Conflict, Defense Spending and the Size of Countries. **AU** Alesina, Alberto; Spolaore, Enrico. **AA** Alesina: Harvard University and National Bureau of Economic Research. Spolaore: Ohio State University. **SR** National Bureau of Economic Research Working Paper: 5694; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. Website: www.nber.org. **PG** 39. **PR** $5.00. **JE** H56, R10, R58. **KW** Defense Spending. National Security. Country Size. International Conflict.

AB This paper provides a formal model of endogenous country formation and of choice of defense spending in a world with international conflict. The model is consistent with three observations. First, secessions and, more generally, break-up of countries should follow a reduction in the likelihood of international conflict. Second, the number of regional conflicts between smaller countries may increase as a result of the break-up of larger countries. Third, the size of the peace dividend (i.e., the reduction in the defense spending in a more peaceful world) is limited by the process of country break-up.

PD August 1996. **TI** Fiscal Adjustments in OECD Countries: Composition and Macroeconomic Effects. **AU** Alesina, Alberto; Perotti, Roberto. **AA** Alesina: Harvard University and National Bureau of Economic Research. Perotti: Columbia University. **SR** National Bureau of Economic Research Working Paper: 5730; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. Website: www.nber.org. **PG** 41. **PR** $5.00. **JE** E62, H20, H50, H62. **KW** OECD. Fiscal Policy. Spending Cuts. Transfers. Taxation.

AB This paper studies how the composition of fiscal adjustments influences their likelihood of "success," defined as a long lasting deficit reduction, and their macroeconomic consequences. The authors find that fiscal adjustments which rely primarily on spending cuts on transfers and the government wage bill have a better chance of being successful and are expansionary. On the contrary fiscal adjustments which rely primarily on tax increases and cuts in public investment tend not to last and are contractionary. The authors discuss alternate explanations for these findings by studying both a full sample of OECD countries and by focusing on three case studies: Denmark, Ireland and Italy.

Allen, Robert C.

PD August 1997. **TI** The Standard of Living in the Soviet Union, 1928-1940. **AA** University of British Columbia. **SR** University of British Columbia, Department of Economics, Discussion Paper: 97/18; Department of Economics, University of British Columbia, #997-1873 East Mall, Vancouver, BC V6T 1Z1. Website: web.arts.ubc.ca/econ. **PG** 56. **PR** **JE** N34, P24, P27. **KW** Soviet Union. Standard of Living.

AB New estimates for the growth in aggregate consumption in the Soviet Union from 1929 to 1940 are developed. While Bergson's The Real National Income of Soviet Russia since 1928 had suggested a decline in per capita consumption, this paper argues that consumption rose significantly. The paper includes a detailed discussion of Bergson's procedures.

PD November 1997. **TI** A Multi-Sector Simulation Model of Soviet Economic Development. **AA** University of British Columbia. **SR** University of British Columbia, Department of Economics, Discussion Paper: 97/19; Department of Economics, University of British Columbia, #997-1873 East Mall, Vancouver, BC V6T 1Z1. Website: web.arts.ubc.ca/econ. **PG** 45. **PR** **JE** N34, P21, P24, P31, P35. **KW** Soviet Union. Simulation Model.

AB This paper presents a multi-sector model of the Soviet economy for the period 1928-40. The purpose of the model is to simulate the effects of collectivization, investment strategy, and soft-budget constraints on Soviet economic development. Details of baseline national accounts and related databases used in the modeling are also presented.

PD November 1997. **TI** Capital Accumulation, the Soft Budget Constraint and Soviet Industrialization. **AA** University of British Columbia. **SR** University of British Columbia, Department of Economics, Discussion Paper: 97/20; Department of Economics, University of British Columbia, #997-1873 East Mall, Vancouver, BC V6T 1Z1. Website: web.arts.ubc.ca/econ. **PG** 48. **PR** **JE** N34, P23, P31, P35. **KW** Soviet Union. Soft-Budget Constraint. Economic Development.

AB The paper analyzes the rapid development of the Soviet economy during the first three Five Year Plans. A simulation model is used to determine the importance of three distinctive Soviet institutions/policies -- the concentration of investment on heavy industry, the collectivization of agriculture, and the use of ambitious output targets in conjunction with soft budget constraints to guide business activity. It is shown that the investment strategy and the planning system were responsible for rapid industrialization, including a significant rise in the standard of living. Collectivization did increase the rate of growth over the 1930's but by only a small amount.

Alvarez, Fernando

PD July 1996. **TI** Money and Exchange Rates in the Grossman-Weiss-Rotemberg Model. **AU** Alvarez, Fernando; Atkeson, Andrew. **AA** Alvarez: University of Chicago. Atkeson: University of Pennsylvania and National Bureau of Economic Research. **SR** National Bureau of Economic Research Working Paper: 5678; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. Website: www.nber.org. **PG** 29. **PR** $5.00. **JE** E31, E43, E51, F31. **KW** Exchange Rates. Money Supply. Monetary Shocks. Foreign Exchange.

AB We examine the impact of monetary injections in the Grossman-Weiss- Rotemberg Model. We show that monetary shocks can lead to nominal exchange rates that are much more volatile than inflation, money growth, or interest rate differentials. Moreover, movements in real exchange rates following monetary injections can be persistent and nearly as large as movements in nominal exchange rates.

Amiel, Yoram

PD January 1997. **TI** Income Transformation and Income Inequality. **AU** Amiel, Yoram; Cowell, Frank A. **AA** London School of Economics. **SR** STICERD, London School of Economics Discussion Papers Series: DARP/24; STICERD, Room R.415, London School of Economics and Political Science, Houghton Street, London WC2A 2AE, UK. **PG** 30. **PR** no charge. **JE** C13, D63. **KW** Inequality. Transformation Direction. Income Distribution.

AB We examine the way in which across-the-board additions to incomes are percieved to change inequality. Using a questionnaire we investigate whether subjective inequality rankings correspond to the principle of scale-independence, of translation-independence, or to some generalized concept of independence which incorporates the other two principles as special cases. We find evidence that the appropriate independence concept depends on the income levels at which inequality comparisons are made.

PD April 1997. **TI** Inequality, Welfare and Monotonicity. **AU** Amiel, Yoram; Cowell, Frank A. **AA** London School of Economics and the Ruppin Institute, Israel. **SR** STICERD, London School of Economics Discussion Papers Series: DARP/29; STICERD, Room R.415, London School of Economics and Political Science, Houghton Street, London WC2A 2AE, UK. **PG** 18. **PR** no charge. **JE** C13, D61, D63. **KW** Inequality. Social Welfare. Monotonicity. Income Distribution.

AB We establish a general relationship between the standard form of the individualistic social-welfare function and the "reduced-form" version that is expressed in terms of inequality and mean income. This shows the relationship between the property of monotonicity and the slope of the equity-efficiency trade-off. Particularly simple results are available for a large class of inequality measures that includes the Gini. These results do not require differentiability of the social welfare function.

Andersen, Torben G.

PD September 1996. **TI** Heterogeneous Information Arrivals and Return Volatility Dynamics: Uncovering the Long-Run in High Frequency Returns. **AU** Andersen, Torben G.; Bollerslev, Tim. **AA** Andersen: Northwestern University. Bollerslev: University of Virginia and National Bureau of Economic Research. **SR** National Bureau of Economic Research Working Paper: 5752; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138.

Website: www.nber.org. **PG** 26. **PR** $5.00. **JE** G11, G12, G15. **KW** Volatility. Information Arrival. Returns. Germany.
AB Recent empirical evidence suggests that the long-run dependence in financial market volatility is best characterized by a slowly mean-reverting fractionally integrated process. At the same time, much shorter-lived volatility dependencies are typically observed with high-frequency intradaily returns. This paper draws on the information arrival, or mixture-of-distributions hypothesis interpretation of the latent volatility process in rationalizing this behavior. By interpreting the overall volatility as the manifestation of numerous heterogeneous information arrivals, sudden bursts of volatility typically will have both short-run and long-run components. Over intradaily frequencies, the short-run decay stands out most clearly, while the impact of the highly persistent processes will be dominant over longer horizons. These ideas are confirmed by the authors empirical analysis of a one-year time series of intradaily five-minute Deutschemark-U.S. Dollar returns. The autocorrelogram for the low-pass filtered absolute returns, obtained by annihilating periods in excess of one day, exhibit a striking hyperbolic rate of decay.

PD October 1996. **TI** DM-Dollar Volatility: Intraday Activity Patterns, Macroeconomic Announcements, and Longer Run Dependencies. **AU** Andersen, Torben G.; Bollerslev, Tim. **AA** Andersen: Northwestern University. Bollerslev: University of Virginia and National Bureau of Economic Research. **SR** National Bureau of Economic Research Working Paper: 5783; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. Website: www.nber.org. **PG** 33. **PR** $5.00. **JE** F31, G15. **KW** Germany. Foreign Exchange. Return Variability.
AB This paper characterizes the volatility in the DM-dollar foreign exchange market using an annual sample of five-minute returns. Our modeling approach explicitly captures the pronounced intraday activity patterns, the strong macroeconomic announcement effects, and the volatility persistence, or ARCH effects, familiar from lower frequency returns. The different features are separately quantified and shown, in conjunction, to account for a substantial fraction of the realized return variability, both at the intradaily and daily levels. Moreover, we demonstrate how the high frequency returns, when properly modeled, constitute an extremely valuable and vastly underutilized resource for better understanding the volatility dynamics at the daily or lower frequencies.

PD May 1997. **TI** Efficient Method of Moments Estimation of a Stochastic Volatility Model: A Monte Carlo Study. **AU** Andersen, Torben G.; Chung, Hyung-Jin; Sorensen, Bent E. **AA** Andersen: Northwestern University. Chung and Sorensen: Brown University. **SR** Brown University, Department of Economics Working Paper: 97/12; Department of Economics, Brown University, Providence, RI 02912. **PG** 35. **PR** no charge. **JE** C15, C22. **KW** Stochastic Volatility. GMM. EMM. Monte Carlo.
AB We perform an extensive Monte Carlo study of Efficient Method of Moments (EMM) estimation of a lognormal stochastic autoregressive volatility model. EMM uses the expectation under the structural model of the score from an auxiliary model as the moment conditions. These moments, along with the weighting matrix derived from the outer product of the score, define the GMM criterion. We examine the sensitivity to the choice of auxiliary model using ARMA representations for the mean as well as ARCH, GARCH, and EGARCH representations for the conditional variance, and we also explore nonparametric extensions of these auxiliary models. We find that EMM estimates are almost as efficient as maximum likelihood for all but small sample sizes, when the parametric part of the auxiliary model is chosen as a GARCH or EGARCH model. In small samples inference is sensitive to the choice of auxiliary model as over-parameterization results in large efficiency costs, while the inference is quite robust as sample size grows large. The test of overidentifying restrictions is reliable, as it is well approximated by the asymptotic Chi-squared distribution in small samples. Moreover, the distribution of studentized parameter estimates matches the corresponding asymptotic Gaussian distribution quite closely.

Anderson, Erin

TI Buyer-Supplier Relations in Industrial Markets: When Do Buyers Enter the Trap of Making Idiosyncratic Investments? **AU** Bensaou, Ben M.; Anderson, Erin.

Anderson, Kym

PD August 1996. **TI** Social Policy Dimensions of Economic Integration: Environmental and Labour Standards. **AA** University of Adelaide. **SR** National Bureau of Economic Research Working Paper: 5702; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. Website: www.nber.org. **PG** 47. **PR** $5.00. **JE** F15, F42, K31, K32, O19. **KW** Economic Integration. Development. International Trade. Trade Policy. Environment.
AB Social policies, particularly environmental and labor issues, are not new to trade policy fora including the GATT. However, they are likely to have a more prominent role in trade policy discussions in the years ahead for the new World Trade Organization. Many developing countries perceive the entwining of these social issues with trade policy as a threat, while significant groups in advanced economies consider it unfair, ecologically unsound, even immoral to trade with countries adopting much lower standards than their own. This paper examines why these issues are becoming more prominent, whether the WTO is an appropriate forum to discuss them, and how they affect developing and other economies. It concludes that (a) the direct effect on developing economies is likely to be small, but (b) there is an important indirect negative effect on them and other economies, namely, the potential erosion of the rules-based multilateral trading system.

Andrews, Donald W. K.

PD July 1997. **TI** On the Number of Bootstrap Repetitions for Bootstrap Standard Errors, Confidence Intervals, and Tests. **AU** Andrews, Donald W. K.; Buchinsky, Moshe. **AA** Andrews: Cowles Foundation and Yale University. Buchinsky: Brown University and National Bureau of Economic Research. **SR** Brown University, Department of Economics Working Paper: 97/21; Department of Economics, Brown University, Providence, RI 02912. **PG** 51. **PR** no charge. **JE** C12, C13, C14, C15. **KW** Bootstrap Repetitions. Excess Kurtosis. Confidence Interval. Density Estimation. Standard Error.
AB This paper considers the problem of choosing the number of bootstrap repetitions B for bootstrap standard errors, confidence intervals, and tests. For each of these problems, the paper provides a three-step method for choosing B to achieve a desired level of accuracy. Accuracy is measured by the

percentage deviation of the bootstrap standard error estimate, confidence interval endpoint(s), test's critical value, or test's p-value based on B bootstrap simulations from the corresponding ideal bootstrap quantities for which B = infinity. Monte Carlo simulations show that the proposed methods work quite well. The results apply quite generally to parametric, semiparametric, and nonparametric models with independent and dependent data. The results apply to the standard nonparametric iid bootstrap, moving block bootstraps for time series data, parametric and semiparametric bootstraps, and bootstraps for regression models based on bootstrapping residuals.

Angrist, Joshua

PD September 1996. **TI** Children and Their Parents' Labor Supply: Evidence from Exogenous Variation in Family Size. **AU** Angrist, Joshua; Evans, William. **AA** Angrist: Massachusetts Institute of Technology and National Bureau of Economic Research. Evans: University of Maryland and National Bureau of Economic Research. **SR** National Bureau of Economic Research Working Paper: 5778; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. Website: www.nber.org. **PG** 25. **PR** $5.00. **JE** J13, J22. **KW** Labor Supply. Children. Family Size.

AB Although theoretical models of labor supply and the family are well developed, there are few credible estimates of key empirical relationships in the work-family nexus. This study uses a new instrumental variable, the sex composition of the first two births in families with at least two children, to estimate the effect of additional children on parents' labor supply. Instrumental variables estimates are substantial but smaller than the corresponding ordinary least squares (OLS) estimates. Moreover, unlike the OLS estimates, the female labor supply effects estimated using sex-mix instruments appear to be absent among more educated women and women with high-wage husbands. The authors also find that married women who have a third child reduce their labor supply by as much as women in the full sample, while there is no relationship between wives' child-bearing and husbands' labor supply. Finally, they compare these results to estimates produced using twins.

Apte, Prakash

PD September 1996. **TI** The Equilibrium Approach to Exchange Rates: Theory and Tests. **AU** Apte, Prakash; Sercu, Piet; Uppal, Raman. **AA** Apte: I.I.M Bangalore. Sercu: D.T.E.W. Uppal: University of British Columbia. **SR** National Bureau of Economic Research Working Paper: 5748; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. Website: www.nber.org. **PG** 33. **PR** $5.00. **JE** E31, E58, F31. **KW** Exchange Rates. Foreign Exchange. Risk Aversion.

AB The authors characterize the equilibrium exchange rate in a general equilibrium economy without imposing strong restrictions on the output processes, preferences, or commodity market imperfections. The nominal exchange rate is determined by differences in initial wealths and by differences of marginal indirect utilities of total nominal spending. Changes in the exchange rate mirror differences in growth rates of real spending weighted by relative risk-aversion, and in the case of non-homothetic utility functions, differences in inflation rates computed from marginal spending weights. Thus, standard regression or cointegration tests of PPP suffer from missing-variables biases and ignore variations in risk aversions across countries and over time. The authors also present cointegration tests of the version of the model with constant relative risk aversion (CRRA) and homothetic preferences. When nominal spending is given an independent role (next to prices) in the short-term dynamics, both PPP and the CRRA model become acceptable.

Asakawa, Kaz

TI The Metanational Corporation. **AU** Doz, Yves; Asakawa, Kaz; Santos, Jose; Williamson, Peter.

Atkeson, Andrew

TI Money and Exchange Rates in the Grossman-Weiss-Rotemberg Model. **AU** Alvarez, Fernando; Atkeson, Andrew.

Atkinson, A. B.

PD January 1998. **TI** Exclusion, Employment and Opportunity. **AU** Atkinson, A. B.; Hills, John. **AA** Atkinson: Oxford University. Hills: London Scool of Economics. **SR** STICERD, London School of Economics Discussion Papers Series: CASE/4; STICERD, Room R.415, London School of Economics and Political Science, Houghton Street, London WC2A 2AE, UK. **PG** 131. **PR** no charge. **JE** D63, I31, I32, J23, J28. **KW** Social Exclusion. Income Mobility. Employment. Poverty. Education.

AB The relationships between employment, education, opportunity, social exclusion and poverty are central to current policy debates. Atkinson argues that the concepts of poverty, unemployment and social exclusion are closely related, but are not the same. People may be poor without being socially excluded, and vice versa. Unemployment may cause poverty, but this can be prevented. Equally, marginal jobs do not ensure social inclusion. Britton argues that conventional economic analysis misses a key part of the problem of unemployment: the role of work in providing self-esteem and non-material parts of human well-being. Hills examines whether new evidence on income mobility implies less worry about inequality and relative poverty. Some low income is transitory, but the "poverty problem" discounting this remains 80-90 percent of that shown by cross-section surveys. Machin finds that intergenerational mobility is limited in terms of earnings and education, and that childhood disadvantage has effects long into adult life.

Attfield, Cliff

TI Intrahousehold Resource Allocation in Rural Pakistan: A Semiparametric Analysis. **AU** Bhalotra, Sonia R.; Attfield, Cliff.

Ayres, Robert U.

PD March 1997. **TI** Integrated Assessment of the Grand Nutrient Cycles. **AA** INSEAD. **SR** INSEAD Working Papers: 97/26/EPS; INSEAD, Research and Development Department, Boulevard de Constance, 77305 Fontainebleau, France. Website: www.insead.fr/Research. **PG** 44. **PR** no charge up to five copies, after five copies 18FF per working paper plus postage and VAT. **JE** G20, Z00. **KW** Nutrient Cycles. Human Impact. Economic Impact.

AB There are four major elements that are required by the biosphere in significantly greater quantities than they are available in nature: carbon, nitrogen, sulfur and phosphorus.

These natural cycles are driven by geological, hydrological, atmospheric and biological processes. In effect, the geo-biosphere is a dissipative system (in the sense of Prigogine) in a quasi steady state, far from thermodynamic equilibrium. This steady state is maintained by the influx of solar energy. Interruption or disturbance of these natural cycles as a consequence of human industrial/economic activity could adversely affect the stability of the biosphere, and might possibly reduce its productivity. Indeed, because the more complex long-lived organisms such as large mammals, birds and even trees evolve more slowly than smaller short-lived organisms, the very nature of an altered steady state might not be favorable to many existing species. Thus there is even a potential threat to human survival itself.

PD March 1997. **TI** Eco-Restructuring: The Transition to an Ecologically Sustainable Economy. **AA** INSEAD. **SR** INSEAD Working Papers: 97/33/EPS; INSEAD, Research and Development Department, Boulevard de Constance, 77305 Fontainebleau, France. Website: www.insead.fr/Research. **PG** 37. **PR** no charge up to five copies, after five copies 18FF per working paper plus postage and VAT. **JE** O33, Q13, Q28, Q32, Q38. **KW** Sustainability. Ecological Risk. Environment.
AB This paper seeks to sort out the questions about sustainability on which there is substantial scientific agreement from those unresolved questions that are still subject to considerable controversy. In this context, several theses are proposed. The first thesis is that there are limits to the capacity of the natural environment to accommodate anthropogenic disturbances. Second, there are also limits to the substitutability of conventional market goods and services for environmental services. Third, there are limits to the extent to which technology can repair or replace environmental resources that are irreversibly damaged. With respect to the controversial questions an agenda for urgently needed research is suggested. In brief, the underlying problem is that many current demographic, economic and industrial trends seem to point unmistakably away from sustainability. To achieve sustainability and minimize ecological risk the author thinks it is necessary to reverse most of these trends.

PD March 1997. **TI** Eco-Efficiency, Double Dividends and the Sustainable Firm. **AU** Ayres, Robert U.; Van Leynseele, Tania. **AA** INSEAD. **SR** INSEAD Working Papers: 97/34/EPS; INSEAD, Research and Development Department, Boulevard de Constance, 77305 Fontainebleau, France. Website: www.insead.fr/Research. **PG** 18. **PR** no charge up to five copies, after five copies 18FF per working paper plus postage and VAT. **JE** L21, O13, Q28, Q32, Q38. **KW** Sustainability. Environmental Policy. Production Strategy. Ecological Risk. Economic Policy.
AB Ecological sustainability at the global level is not consistent with continuously increasing extraction, processing and consumption of material products at the individual or firm levels. This stark fact implies that economic growth must either be disconnected from material consumption or stop altogether. Since the latter outcome would be socially unacceptable, the former must become a major objective of environmental and economic policy. But it must also become a core strategy for firms. Is there a coherent "eco-efficiency" strategy at the firm level that leads in the right direction? What role must government play to encourage firms to adopt this strategy? This paper discusses these questions.

PD March 1997. **TI** Eco-Efficiency, Asset Recovery and Remanufacturing. **AU** Ayres, Robert U.; Ferrer, Geraldo; Van Leynseele, Tania. **AA** INSEAD. **SR** INSEAD Working Papers: 97/35/EPS/TM; INSEAD, Research and Development Department, Boulevard de Constance, 77305 Fontainebleau, France. Website: www.insead.fr/Research. **PG** 26. **PR** no charge up to five copies, after five copies 18FF per working paper plus postage and VAT. **JE** L21, L23, Q28, Q32, Q38. **KW** Environmental Policy. Remanufacturing. Recycling. Production Strategy. Regulation.
AB In this paper, the authors consider the underlying imperatives driving the trend toward eco-efficiency and, especially, asset recovery, at the firm level. They show how the enormous potential for adding value while reducing material inputs can be realized in almost every sector of the economy. Many of these gains can be obtained by "internalizing" the product. In many cases there is a large scope for "double dividends", by which the authors mean increased profits for the firm combined with environmental improvement. They also discuss the role of government regulation as a driver of change. Finally, they review a number of specific cases from (mostly) European firms, with emphasis on the potential for internalizing the product by recovery, remanufacturing and materials recycling. They conclude with a discussion of the economics, the regulatory environment and the organizational and management aspects of the problem.

TI The Impact of Remanufacturing in the Economy. **AU** Ferrer, Geraldo; Ayres, Robert U.

PD June 1997. **TI** Metals Recycling: Economic & Environmental Implications. **AA** INSEAD. **SR** INSEAD Working Papers: 97/59/EPS/TM; INSEAD, Research and Development Department, Boulevard de Constance, 77305 Fontainebleau, France. Website: www.insead.fr/Research. **PG** 24. **PR** no charge up to five copies, after five copies 18FF per working paper plus postage and VAT. **JE** L23, L61, Q32, Q38. **KW** Recycling. Scale Economics. Environmental Policy. Metals.
AB Recycling is the wave of the (immediate) future. The potential savings in terms of energy and capital have long been obvious. The savings in terms of reduced environmental impact are less obvious but increasingly important. The obstacle to greater use of recycling has been the fact that economies of scale still favor large primary mining and smelting complexes over smaller and less centralized recyclers. But this advantage is declining over time as the inventory of potentially recyclable metals in industrialized society grows to the point that efficient collection and logistic systems, and efficient markets, justify significant investments in recycling. Increasing energy and other resource costs, together with increasing costs of waste disposal, will favor this shift in any case. But government policies, driven by employment and environmental concerns, taken together, may accelerate the shift by gradually reducing taxes on labor and increasing taxes on extractive resource use.

Backus, David

PD June 1996. **TI** Affine Models of Currency Pricing. **AU** Backus, David; Foresi, Silverio; Telmer, Chris. **AA** Backus: New York University and National Bureau of Economic Research. Foresi: New York University. Telmer: Carnegie Mellon University. **SR** National Bureau of Economic Research Working Paper: 5623; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge,

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MA 02138. Website: www.nber.org. **PG** 24. **PR** $5.00. **JE** E31, E43, F31, G12, G13. **KW** Currency Pricing. Expectations Hypothesis. Risk Premium. Affine Models. Interest Rates.

AB Perhaps the most puzzling feature of currency prices is the tendency for high interest rate currencies to appreciate, when the expectations hypothesis suggests the reverse. Some have attributed this forward premium anomaly to a time-varying risk premium, but theory has been largely unsuccessful in producing a risk premium with the requisite properties. We characterize the risk premium in a general arbitrage-free setting and describe the features a theory must have to account for the anomaly. In affine models, the anomaly requires either that state variables have asymmetric effects on state prices in different currencies or that we abandon the common requirement that interest rates be strictly positive.

PD June 1996. **TI** Arbitrage Opportunities in Arbitrage-Free Models of Bond Pricing. **AU** Backus, David; Foresi, Silverio; Zin, Stanley. **AA** Backus: New York University and National Bureau of Economic Research. Foresi: New York University. Zin: Carnegie Mellon University and National Bureau of Economic Research. **SR** National Bureau of Economic Research Working Paper: 5638; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. Website: www.nber.org. **PG** 20. **PR** $5.00. **JE** G12, G13. **KW** Mean Reversion. Call Options. Arbitrage. State-Contingent Claims. Asset Pricing.

AB Mathematical models of bond pricing are used by both academics and Wall Street practitioners, with practitioners introducing time-dependent parameters to fit "arbitrage-free" models to selected asset prices. We show, in a simple one-factor setting, that the ability of such models to reproduce a subset of security prices need not extend to state- contingent claims more generally. The popular Black-Derman-Toy model, for example, overprices call options on long bonds relative to those on short bonds when interest rates exhibit mean reversion. We argue, more generally, that the additional parameters of arbitrage-free models should be complemented by close attention to fundamentals, which might include mean reversion, multiple factors, stochastic volatility, and/or non-normal interest rate distributions.

Bailey, Elizabeth

TI Auction Design and the Market for Sulfur Dioxide Emissions. **AU** Joskow, Paul; Schmalensee, Richard; Bailey, Elizabeth.

Baldwin, Robert

TI Application of Nationality-Adjusted Net Sales and Value Added Framework: The Case of Japan. **AU** Kimura, Fukunari; Baldwin, Robert.

Barro, Robert J.

TI Technological Diffusion, Convergence, and Growth. **AU** Sala-i-Martin, Xavier; Barro, Robert J.

PD August 1996. **TI** Determinants of Economic Growth: A Cross-Country Empirical Study. **AA** Harvard University and National Bureau of Economic Research. **SR** National Bureau of Economic Research Working Paper: 5698; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. Website: www.nber.org. **PG** 71. **PR** $5.00. **JE** F43, O47, O57. **KW** Conditional Convergence. Comparative Growth. Growth.

AB Empirical findings for a panel of around 100 countries from 1960 to 1990 strongly support the general notion of conditional convergence. For a given starting level of real per capita GDP, the growth rate is enhanced by higher initial schooling and life expectancy, lower fertility, lower government consumption, better maintenance of the rule of law, lower inflation, and improvements in the terms of trade. For given values of these and other variables, growth is negatively related to the initial level of real per capita GDP. Political freedom has only a weak effect on growth but there is some indication of a nonlinear relation. At low levels of political rights, an expansion of these rights stimulates economic growth. However, once a moderate amount of democracy has been attained, a further expansion reduces growth. Yet, there is a positive influence of the standard of living on a country's propensity to experience democracy.

Bartlett, Christopher A.

TI Employment Security, Employability and Sustainable Competitive Advantage. **AU** Ghoshal, Sumantra; Moran, Peter; Bartlett, Christopher A.

Bartolini, Leonardo

PD August 1996. **TI** Capital Account Liberalization as a Signal. **AU** Bartolini, Leonardo; Drazen, Allan. **AA** Bartolini: Federal Reserve Bank of New York. Drazen: University of Maryland and National Bureau of Economic Research. **SR** National Bureau of Economic Research Working Paper: 5725; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. Website: www.nber.org. **PG** 26. **PR** $5.00. **JE** F21, F29, F32. **KW** Capital Account. Outflows. Liberalization. Uncertainty.

AB We present a model in which a government's current capital controls policy signals future policies. Controls on capital outflows evolve in response to news on technology, conditional on government attitudes towards taxation of capital. When there is uncertainty over government types, a policy of liberal capital outflows sends a favorable signal that may trigger a capital inflow. This prediction is consistent with the experience of several countries that have liberalized their capital account.

PD August 1996. **TI** When Liberal Policies Reflect External Shocks, What Do We Learn? **AU** Bartolini, Leonardo; Drazen, Allan. **AA** Bartolini: Federal Reserve Bank of New York. Drazen: University of Maryland and National Bureau of Economic Research. **SR** National Bureau of Economic Research Working Paper: 5727; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. Website: www.nber.org. **PG** 28. **PR** $5.00. **JE** D82, F21, F32, O16. **KW** Interest Rates. Capital Account. Developing Countries. Capital Flows.

AB We present a model where policies of free capital mobility can signal governments' future policies, but the informativeness of the signal depends on the path of world interest rates. Capital flows to "emerging markets" reflect investors' perception of these markets' political risk. With low world interest rates, emerging markets experience a capital inflow and engage in a widespread policy of free capital mobility; with higher rates, only sufficiently committed countries allow free capital mobility, whereas others impose controls to trap capital onshore, thus signaling future policies affecting capital mobility. These predictions are consistent with the recent experience of capital flows and policies affecting capital mobility in developing countries.

Bayer, Patrick

PD July 1996. **TI** The Effects of Financial Education in the Workplace: Evidence from a Survey of Employers. **AU** Bayer, Patrick; Bernheim, B. Douglas; Scholz, John Karl. **AA** Bayer: Stanford University. Bernheim: Stanford University and National Bureau of Economic Research. Scholz: University of Wisconsin- Madison and National Bureau of Economic Research. **SR** National Bureau of Economic Research Working Paper: 5655; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. Website: www.nber.org. **PG** 27. **PR** $5.00. **JE** E21, G23, I20, J26. **KW** Financial Education. Retirement Programs. Savings. Household Behavior.

AB The authors examine the effects of education on financial decision- making skills by identifying an interesting source of variation in pertinent training. During the 1990's, an increasing number of individuals were exposed to programs of financial education provided by their employers. If, as some have argued, low saving frequently results from a failure to appreciate economic vulnerabilities, then education of this form could prove to have a powerful effect of rates of behavior. The current paper undertakes an analysis of these programs using a previously unexploited survey of employers. We find that both participation in and contributions to voluntary savings plans are significantly higher when employers offer retirement seminars. The effect is typically much stronger for non-highly compensated employees than for highly compensated employees. The frequency of seminars emerges as a particularly important correlate of behavior. We are unable to detect any effects of written materials regardless of frequency.

Bayoumi, Tamim

PD June 1996. **TI** R&D Spillovers and Global Growth. **AU** Bayoumi, Tamim; Coe, David; Helpman, Elhanan. **AA** Bayoumi and Coe: International Monetary Fund. Helpman: Tel Aviv University and National Bureau of Economic Research. **SR** National Bureau of Economic Research Working Paper: 5628; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. Website: www.nber.org. **PG** 26. **PR** $5.00. **JE** F10, F43, O19, O32. **KW** International Trade. Growth. Research and Development. MULTIMOD. Factor Productivity.

AB We examine the growth promoting roles of R&D, international R&D spillovers, and trade in a world econometric model. A country can raise its total factor productivity by investing in R&D. But countries can also boost their productivity by trading with other countries that have large "stocks of knowledge" from their cumulative R&D activities. We use a special version of MULTIMOD that incorporates R&D spillovers among industrial countries and from industrial countries to developing countries. Our simulations suggest that R&D, R&D spillovers, and trade play important roles in boosting growth in industrial and developing countries.

Beaudry, Paul

PD January 1997. **TI** Cohort Patterns in Canadian Earnings and the Skill-Biased Technical Change Hypothesis. **AU** Beaudry, Paul; Green, David A. **AA** University of British Columbia. **SR** University of British Columbia, Department of Economics, Discussion Paper: 97/03; University of British Columbia, Department of Economics, #997-1873 East Mall, Vancouver, B.C.,V6T 1Z1, Canada. Website: web.arts.ubc.ca/econ/. **PG** 36. **PR** **JE** J30, J31. **KW** Cohort Effects. Age-Earning Profiles. Skill-Biased Technical Change.

AB The paper documents the pattern of change in age-earnings profiles across cohorts and evaluates its implications. Using synthetic cohorts from the Survey of Consumer Finances over the period 1971 to 1993, we show that the age-earning profiles of Canadian men have been deteriorating for more recent cohorts in comparison to older cohorts. We find this pattern for both high school and university educated workers. In no case do we find evidence that the return to gaining experience has been increasing over time, nor do we find increased within-cohort dispersion of earnings. We view these findings as conflicting with the hypothesis that increased skill-premium induced by skill-biased technical-change largely explains the observed increase in dispersion of weekly earnings in Canada.

Becker, Gary

TI Mortality Contingent Claims, Health Care, and Social Insurance. **AU** Philipson, Tomas; Becker, Gary.

Ben-Ner, Avner

PD January 1997. **TI** Values and Institutions in Economic Analysis: An Introduction. **AU** Ben-Ner, Avner; Putterman, Louis. **AA** Ben-Ner: University of Minnesota. Putterman: Brown University. **SR** Brown University, Department of Economics Working Paper: 97/04; Department of Economics, Brown University, Providence, RI 02912. **PG** 58. **PR** no charge. **JE** C72, D23, D64, H41. **KW** Preference Formation. Values. Institutions. Evolutionary Theory. Preference Endogeneity.

AB In this essay, we argue that there is no scientific basis for the assumption that own well-being or command over resources is the exclusive and immutable concern of human individuals. The natural sciences, evolutionary biology in particular, and other social and behavioral sciences, especially evolutionary psychology, suggest that individual human beings may be genetically inclined towards concern not only with their own success in acquiring the resources necessary for thriving and reproducing, but also with the success of off-spring and other kin. The theme of this volume is that of studying the relationship of values to institutions. In Part I, we elaborate on our reasons for believing that economists must understand values, and present views on how this might be done, drawing extensively on recent literature and on our perspectives as students of economic institutions and organization. In Part II, we discuss conceptual and methodological issues concerning the endogenization of values in economic analysis. There, we develop our ideas concerning evolved receptivities to preference patterns, the influence upon these of environmental cues, and the simultaneuos evolution of institutions and of preferences, including values. In Part III, we explore the endogenization of value formation and the values/institutions nexus by way of illustration.

Benabou, Roland

PD July 1996. **TI** Inequality and Growth. **AA** New York University and National Bureau of Economic Research. **SR** National Bureau of Economic Research Working Paper: 5658; National Bureau of Economic Research, 1050

Massachusetts Avenue, Cambridge, MA 02138. Website: www.nber.org. **PG** 39. **PR** $5.00. **JE** C72, D31, D61, E21, H23. **KW** Noncooperative Games. Income Distribution. Growth. Savings.

AB Using two unifying models and an empirical exercise, this paper presents and extends the main theories linking income distribution and growth, as well as the relevant empirical evidence. The first model integrates the political economy and imperfect capital markets theories. It allows for explicit departures from perfect democracy and embodies the tradeoff between the growth costs and benefits of redistribution through taxes, land reform or public schooling: such policies simultaneously depress savings incentives and ameliorate the wealth constraints which impede investment by the poor. The second model is a growth version of the prisoner's dilemma which captures the essence of theories where sociopolitical conflict reduces the security of property rights, thereby discouraging accumulation. The economy's growth rate is shown to fall with interest groups' rent-seeking abilities, as well as with the gap between rich and poor.

Benefo Kofi

TI Fertility and Child Mortality in Cote D'ivoire and Ghana.
AU Schultz, Paul T.; Benefo Kofi.

Bensaou, Ben M.

PD February 1997. **TI** Buyer-Supplier Relations in Industrial Markets: When Do Buyers Enter the Trap of Making Idiosyncratic Investments? **AU** Bensaou, Ben M.; Anderson, Erin. **AA** INSEAD. **SR** INSEAD Working Papers: 97/27/TM/MKT; INSEAD, Research and Development Department, Boulevard de Constance, 77305 Fontainebleau, France. Website: www.insead.fr/Research. **PG** 50. **PR** no charge up to five copies, after five copies 18FF per working paper plus postage and VAT. **JE** D21, E22, L14, L62. **KW** Specific Investments. Suppliers. Industrial Buyers. Automobile Industry. Japan.

AB It is well established that the existence of investments specific to a relationship influences the choice of governance structure, including the use of contractual safeguards. This paper explores the industrial buyer's motives to put itself at risk by making investments, tangible and intangible, which cannot be readily redeployed from one supplier to another. Using original data from a sample of 388 supply relationships involving all automakers in the U.S. and Japan, the authors examine features of the supply task, the supplier, and the supply environment which serve as motives to make supplier-specific investments. They also examine potential safeguards which facilitate the posting of specific assets by offering assurance against supplier opportunism. The findings indicate that specific investments serve as a mechanism to 1) increase coordination when the manufacturing task is complex, 2) buffer the buyer against technological uncertainty, 3) build close relationships when the requisite production skills are scarce.

PD March 1997. **TI** Testing Measurement Equivalence in Cross-National Research: An Empirical Test Across U.S. and Japan. **AU** Bensaou, Ben M.; Coyne, Michael; Venkatraman, N. **AA** Bensaou: INSEAD. Coyne and Venkatraman: Boston University. **SR** INSEAD Working Papers: 97/41/ABA/TM; INSEAD, Research and Development Department, Boulevard de Constance, 77305 Fontainebleau, France. Website: www.insead.fr/Research. **PG** 40. **PR** no charge up to five copies, after five copies 18FF per working paper plus postage and VAT. **JE** C52, D23, D74, F10, L14. **KW** Japan. Measurement Equivalence. Strategy Research. Transaction Costs. Organization Theory.

AB The authors propose a conceptual and analytical framework for assessing measurement equivalence in cross-national strategy research. They illustrate the use of this diagnostic procedure as they test the equivalence of the measurement models previously used across the U.S. and Japan to capture eight conceptual constructs derived from transaction cost economics (e.g. asset specificity, reciprocal investments) and organization theory (e.g. conflict, trust task characteristics). Results of the multi-group LISREL analysis conducted on a data set of 447 relationships reveal some constructs with strong cross-national equivalence, others with need for content respecification and some with need for re-conceptualization. The authors derive implications and suggestions about how to conduct empirical strategy research in cross-national settings.

Berger, Allen N.

PD January 1997. **TI** Problem Loans and Cost Efficiency in Commercial Banks. **AU** Berger, Allen N.; DeYoung, Robert. **AA** Berger: Board of Governors of the Federal Reserve System. DeYoung: Wharton Financial Institutions Center, University of Pennsylvania. **SR** Board of Governors of the Federal Reserve System, Finance and Economics Discussion Paper Series: 1997/08; Ms. Karen Blackwell, FEDS Secretary, Mail Stop 77, Federal Reserve Board, Washington, DC 20551. Website: www.bog.frb.fed.us/pubs/feds. **PG** 28. **PR** no charge. **JE** G21, G28. **KW** Commercial Banks. Cost Efficiency. Loan Quality. Granger Causality. Banking.

AB This paper addresses a little examined intersection between the problem loan literature and the bank efficiency literature. We employ Granger-causality techniques to test four hypotheses regarding the relationships among loan quality, cost efficiency, and bank capital. The data suggest that problem loans precede reductions in measured cost efficiency; that measured cost efficiency precedes reductions in problem loans; and that reductions in capital at thinly capitalized banks precede increases in problem loans. Hence, cost efficiency may be an important indicator of future problem loans and problem banks. Our results are ambiguous concerning whether or not researchers should control for problem loans in efficiency estimation.

TI The Effects of Megamergers on Efficiency and Prices: Evidence from a Bank Profit Function. **AU** Akhavein, Jalal D.; Berger, Allen N.; Humphrey, David B.

PD January 1997. **TI** Inside the Black Box: What Explains Differences in the Efficiencies of Financial Institutions? **AU** Berger, Allen N.; Mester, Loretta J. **AA** Berger: Board of Governors of the Federal Reserve System and University of Pennsylvania. Mester: Federal Reserve Bank of Philadelphia and University of Pennsylvania. **SR** Board of Governors of the Federal Reserve System, Finance and Economics Discussion Paper Series: 1997/10; Ms. Karen Blackwell, FEDS Secretary, Mail Stop 77, Federal Reserve Board, Washington, DC 20551. Website: www.bog.frb.fed.us/pubs/feds. **PG** 59. **PR** no charge. **JE** D20, G21, G28, E58, F33. **KW** Banking. Cost Efficiency. Profitability.

AB Over the past several years, substantial research effort has gone into measuring the efficiency of financial institutions.

Many studies have found that inefficiencies are quite large, on the order of 20 percent or more of total banking industry costs and about half of the industry's potential profits. There is no consensus on the sources of the differences in measured efficiency. This paper examines several possible sources, including differences in efficiency concept, measurement method, and a number of bank, market, and regulatory characteristics. We review the extant literature and provide new evidence using data on U.S. banks over the period 1990-95.

PD January 1997. **TI** Inside the Black Box: What Explains Differences in the Efficiencies of Financial Institutions? **AU** Berger, Allen N.; Mester, Loretta J. **AA** Berger: Federal Reserve System and Wharton Financial Institutions Center. Mester: Federal Reserve Bank of Philadelphia and University of Pennsylvania. **SR** Federal Reserve Bank of Philadelphia Research Working Paper: 97/01; Working Papers, Department of Research, Federal Reserve Bank of Philadelphia, 101 Independence Mall, Philadelphia, PA 19106. Website: www.phil.frb.org/econ/index.html. **PG** 71. **PR** no charge except overseas airmail, $3.00; checks/money orders in U.S. funds payable to Federal Reserve Bank of Philadelphia. **JE** D20, E58, E61, F33, G21, G28. **KW** Bank Efficiency. Cost. Profit.
AB See abstract for Berger, Allen N. and Loretta J. Mester. January 1997. Inside the Black Box: What Explains Differences in the Efficiencies of Financial Institutions?" Board of Governors of the Federal Reserve System, Finance and Economics Discussion Paper Series: 1997/10; Ms. Karen Blackwell, FEDS Secretary, Mail Stop 77, Federal Reserve Board, Washington, DC 20551. Website: www.bog.frb.fed.us/pubs/feds.

PD February 1997. **TI** Efficiency of Financial Institutions: International Survey and Directions for Future Research. **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 Paper Series: 1997/11; Ms. Karen Blackwell, FEDS Secretary, Mail Stop 77, Federal Reserve Board, Washington, DC 20551. Website: www.bog.frb.fed.us/pubs/feds. **PG** 75. **PR** no charge. **JE** E58, E61, F33, G21, G28. **KW** Banking. Mergers. Efficiency. Profitability. Financial Institutions.
AB This paper surveys 130 studies that apply frontier efficiency analysis to financial institutions in 21 countries. The primary goals are to summarize and critically review empirical estimates of financial institution efficiency and to attempt to arrive at a consensus view. We find that the various efficiency methods do not necessarily yield consistent results and suggest some ways that these methods might be improved to bring about findings that are more consistent, accurate, and useful. Secondary goals are to address the implications of efficiency results for financial institutions in the areas of government policy, research, and managerial performance. Areas needing additional research are also outlined.

PD May 1997. **TI** Efficiency and Productivity Change in the US Commercial Banking Industry: A Comparison of the 1980s and 1990s. **AU** Berger, Allen N.; Mester, Loretta J. **AA** Berger: Federal Reserve System and The Wharton School. Mester: Federal Reserve Bank of Philadelphia and The Wharton School. **SR** Federal Reserve Bank of Philadelphia Research Working Paper: 97/05; Working Papers, Department of Research, Federal Reserve Bank of Philadelphia, 101 Independence Mall, Philadelphia, PA 19106. Website: www.phil.frb.org/econ/index.html. **PG** 44. **PR** no charge except overseas airmail, $3.00; checks/money orders in U.S. funds payable to Federal Reserve Bank of Philadelphia. **JE** G21. **KW** Commercial Banking. Banking Industry.
AB We investigate efficiency and productivity growth of the U.S. banking industry over the latter part of the 1980's and the first part of the 1990's using comprehensive data on U.S. commercial banks. Cost efficiency decreased slightly between the 1980s and 1990s and large banks showed a sizable decline in profit efficiency. Total predicted production costs increased over both the 1980's and 1990's, reflecting cost productivity declines. Change in business conditions led to cost declines over both periods. Total predicted profits increased in the 1980's and 1990's, with the entire change reflecting increased profit productivity. Changing business conditions led to small declines in profit.

Bergin, Paul R.

PD March 1997. **TI** Price Level Determination in a Heterogeneous Monetary Union. **AA** University of California, Davis. **SR** University of California, Davis, Department of Economics Working Paper: 97/12; Department of Economics, University of California, Davis, CA 95616-8578. **PG** 22. **PR** $3.00 U.S. and Canada, $4.00 international; make checks payable to "Regents of the University of California.". **JE** E31, E58, E63, F33, F36. **KW** Price Level. Monetary Policy. Monetary Union. Heterogeneous Agents.
AB A monetary union requires that a common central bank be shared among multiple nations, where governments and households may well be heterogeneous across national borders. A dynamic stochastic general equilibrium model of a two-country monetary union provides a natural setting in which to examine the implications of agent heterogeneity for price-level determination. The model suggests, first, that significant heterogeneity in government fiscal policies can be accommodated within a monetary union. Second, household heterogeneity gives monetary policy a re-allocative dimension which affects price-level determination. For example, dissimilar preferences for holding money tend to enhance the potency of a monetary contraction to lower inflation. Fiscal federalism may reverse this effect.

PD March 1997. **TI** Monetary Policy, Investment Dynamics, and the Intertemporal Approach to the Current Account. **AA** University of California, Davis. **SR** University of California, Davis, Department of Economics Working Paper: 97/13; Department of Economics, University of California, Davis, CA 95616-8578. **PG** 20. **PR** $3.00 U.S. and Canada, $4.00 international; make checks payable to "Regents of the University of California.". **JE** C61, E52, E62, F32, F41. **KW** Monetary Policy. Current Account. Investment Dynamics. Monetary Shocks. Intertemporal Models.
AB This paper applies the intertemporal approach to the current account to the case of monetary shocks. A two-country dynamic general equilibrium model with predetermined wages is proposed as a means to bridge the gap between Mundell-Fleming and modern intertemporal models. Early versions of Mundell-Fleming implied that a monetary expansion must necessarily improve the current account; the alternative result became a possibility in more contemporary versions when

intertemporal features were introduced into the asset market. The present model suggests that, when intertemporal features are also introduced into the other markets of the economy, the model's prediction is transformed yet further. A calibrated version of the model suggests that a beggar-thy-neighbor improvement in the current account becomes unlikely for reasonable parameter values.

PD July 1997. **TI** Interest Rates, Exchange Rates and Present Value Models of the Current Account. **AU** Bergin, Paul R.; Sheffrin, Steve **AA** University of California, Davis. **SR** University of California, Davis, Department of Economics Working Paper: 97/22; Department of Economics, University of California, Davis, CA 95616-8578. **PG** 19. **PR** $3.00 U.S. and Canada, $4.00 international; make checks payable to "Regents of the University of California.". **JE** F32, F41. **KW** Current Account. Present Value. Consumption Smoothing. Interest Rates. Exchange Rates.
AB This paper develops an intertemporal model of the current account that allows for variable interest rates and exchange rates. These additional variables are channels through which external shocks may influence the domestic current account. We test the restrictions imposed by the theory, using quarterly data from three small open economies. The paper finds that including the interest rate and exchange rate significantly improves the fit of the intertemporal model over what was found in previous studies. The augmented model produces a forecast that better matches the volatility of current account data and better explains historical episodes of current account imbalance.

Berkowitz, Jeremy

TI Dynamic Equilibrium Economics: A Framework for Comparing Models and Data. **AU** Diebold, Francis X.; Ohanian, Lee E.; Berkowitz, Jeremy.

Berlin, Mitchell

PD April 1997. **TI** On the Profitability and Cost of Relationship Lending. **AU** Berlin, Mitchell; Mester, Loretta J. **AA** Berlin: Federal Reserve Bank of Philadelphia. Mester: Federal Reserve Bank of Philadelphia and The Wharton School. **SR** Federal Reserve Bank of Philadelphia Research Working Paper: 97/03; Working Papers, Department of Research, Federal Reserve Bank of Philadelphia, 101 Independence Mall, Philadelphia, PA 19106. Website: www.phil.frb.org/econ/index.html. **PG** 35. **PR** no charge except overseas airmail, $3.00; checks/money orders in U.S. funds payable to Federal Reserve Bank of Philadelphia. **JE** G21. **KW** Relationship Lending. Commercial Banks. Bank's Costs.
AB We provide some preliminary evidence on the costs and profitability of relationship lending by commercial banks. Drawing upon recent research that has identified loan rate smoothing as a significant element in lending relationships between banks and firms, we carry out a two-stage procedure. In the first stage, we derive bank-specific measures of the extent to which the banks in our sample engage in loan rate smoothing for small business borrowers in response to exogenous shocks to their credit risk. In the second stage, we estimate cost and (alternative) profit functions to examine how loan rate smoothing affects a bank's costs and profits. On the whole our evidence says that loan rate smoothing is associated with lower costs and lower profits. These results do not support the hypothesis that loan rate smoothing arises as part of an optimal long-term contract between a bank and its borrower. However, we do find some limited support for smoothing as part of an optimal contract for small banks early in our sample period.

PD October 1997. **TI** Intermediation and Vertical Integration. **AU** Berlin, Mitchell; Mester, Loretta J. **AA** Berlin: Federal Reserve Bank of Philidelphia. Mester: Federal Reserve Bank of Philidelphia and University of Pennsylvania. **SR** Federal Reserve Bank of Philadelphia Research Working Paper: 97/17; Working Papers, Department of Research, Federal Reserve Bank of Philadelphia, 101 Independence Mall, Philadelphia, PA 19106. Website: www.phil.frb.org/econ/index.html. **PG** 38. **PR** no charge except overseas airmail, $3.00; checks/money orders in U.S. funds payable to Federal Reserve Bank of Philadelphia. **JE** D83, G21. **KW** Intermediation. Vertical Integration.
AB This paper views financial intermediaries as vertically integrated firms. We explore how competitive conditions in retail and wholesale funding markets affect the incentive for (upstream) originators and (downstream) fund managers to integrate. The underlying tradeoff in our model is driven by the choice between the production of an illiquid but high yielding loan and a liquid but relatively low yielding bond. We find that greater homogeneity among savers has two effects, both of which tend to increase the incentive to form integrated intermediaries. Greater homogeneity both increases competition between independent fund managers and reduces the likelihood of inefficient underinvestment by integrated intermediaries. We also find that the incentive to integrate is greater when fund managers have more power in the market for firms' securities.

Bernanke, Ben

PD September 1996. **TI** What Does the Bundesbank Target? **AU** Bernanke, Ben; Mihov, Ilian. **AA** Bernanke: Princeton University and National Bureau of Economic Research. Mihov: INSEAD. **SR** National Bureau of Economic Research Working Paper: 5764; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. Website: www.nber.org. **PG** 32. **PR** $5.00. **JE** E31, E58, E63. **KW** Germany. Bundesbank. Inflation. Central Banks. Monetary Policy.
AB Although its primary ultimate objective is price stability, the Bundesbank has drawn a distinction between its money-focus strategy and the inflation targeting approach recently adopted by a number of central banks. We show that, holding constant the current forecast of inflation, German monetary policy responds very little to changes in forecasted money growth; we conclude that the Bundesbank is much better described as an inflation targeter than as a money targeter. An additional contribution of the paper is to apply the structural VAR methods of Bernanke and Mihow (1995) to determine the optimal indicator of German monetary policy. We find that the Lombard rate has historically been a good policy indicator, although the use of the call rate as an indicator cannot be statistically rejected.

Bernheim, B. Douglas

TI The Effects of Financial Education in the Workplace: Evidence from a Survey of Employers. **AU** Bayer, Patrick; Bernheim, B. Douglas; Scholz, John Karl.

PD July 1996. **TI** Exclusive Dealing. **AU** Bernheim, B. Douglas; Whinston, Michael D. **AA** Bernheim: Stanford

University and National Bureau of Economic Research. Whinston: Harvard University and National Bureau of Economic Research. **SR** National Bureau of Economic Research Working Paper: 5666; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. Website: www.nber.org. **PG** 35. **PR** $5.00. **JE** C78, D82, L14. **KW** Contract Theory. Incentives. Exclusive Dealing.

AB In this paper, the authors provide a conceptual framework for understanding the phenomenon of exclusive dealing, and they explore the motivations for and effects of its use. For a broad class of models, the authors characterize the outcome of a contracting game in which manufacturers may employ exclusive dealing provisions in their contracts. They then apply this characterization to a sequence of specialized settings and demonstrate that exclusionary contractual provisions may be irrelevant, anticompetitive, or efficiency-enhancing, depending upon the setting. More specifically, the authors exhibit the potential for anticompetitive effects in non-coincident markets (that is, markets other than the ones in which exclusive dealing is practiced), and explore the potential for the enhancement of efficiency in a setting where common representation gives rise to incentive conflicts. In each instance, the authors describe the manner in which equilibrium outcomes would be altered by a ban on exclusive dealing.

PD July 1996. **TI** The Determinants and Consequences of Financial Education in the Workplace: Evidence from a Survey of Households. **AU** Bernheim, B. Douglas; Garrett, Daniel. **AA** Bernheim: Stanford University and National Bureau of Economic Research. Garrett: Stanford University. **SR** National Bureau of Economic Research Working Paper: 5667; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. Website: www.nber.org. **PG** 35. **PR** $5.00. **JE** D12, E21, G23, I20, J26. **KW** Financial Education. Retirement Programs. Savings. Household Behavior.

AB In recent years, the United States has witnessed significant growth in programs of financial and retirement education in the workplace. This phenomenon provides an opportunity to assess the effects of targeted education programs on financial choices. This paper uses a novel household survey to develop econometric evidence on the efficacy of employer-based financial education. While our primary focus concerns the effects of these programs on saving (both in general and for the purposes of retirement), we also examine a number of collateral issues. These include the circumstances under which employers offer, and employees participate in, financial education programs, and the effects of these programs on sources of information and advice concerning retirement planning. Our findings indicate that employer-based retirement education strongly influences household financial behavior.

PD July 1996. **TI** Optimal Money Burning: Theory and Application to Corporate Dividend Policy. **AU** Bernheim, B. Douglas; Redding, Lee. **AA** Bernheim: Stanford University and National Bureau of Economic Research. Redding: Fordham University. **SR** National Bureau of Economic Research Working Paper: 5682; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. Website: www.nber.org. **PG** not available. **PR** $5.00. **JE** D82, G35, H21, H25. **KW** Money Burning. Signaling. Private Information. Taxation. Dividends.

AB We explore signaling behavior in settings with a discriminating signal and several costly nondiscriminating ("money burning") activities. In settings where informed parties have many options for burning money, existing theory provides no basis for selecting one nondiscriminating activity over another. When senders have private information about the costs of these activities, each sender's indifference is resolved, the taxation of a nondiscriminating signal is Pareto improving, and the use of the taxed activity becomes more widespread as the tax rate rises. We apply this analysis to the theory of dividend signaling. The central testable implication of the model is verified empirically.

Berry, Steven

PD September 1996. **TI** Environmental Change and Hedonic Cost Functions for Automobiles. **AU** Berry, Steven; Kortum, Samuel; Pakes, Ariel. **AA** Berry and Pakes: Yale University and National Bureau of Economic Research. Kortum: Boston University and National Bureau of Economic Research. **SR** National Bureau of Economic Research Working Paper: 5746; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. Website: www.nber.org. **PG** 13. **PR** $5.00. **JE** L51, L62. **KW** Automobile Industry. Hedonic Costs. Gasoline Prices. Regulations. Emission Standards.

AB This paper focuses on how changes in the economic and regulatory environment have affected production costs and product characteristics in the automobile industry. We estimate "hedonic cost functions" that relate product-level costs to their characteristics. Then we examine how this cost surface has changed over time and how these changes relate to changes in gas prices and in emission standard regulations. We also briefly consider the related questions of how changes in automobile characteristics, and in the rate of patenting, are related to regulations and gas prices.

Beuadry, Paul

PD November 1997. **TI** Taxes and Employment Subsidies in Optimal Redistribution Programs. **AU** Beuadry, Paul; Blackorby, Charles. **AA** University of British Columbia. **SR** University of British Columbia, Department of Economics, Discussion Paper: 97/21; Department of Economics, University of British Columbia, #997-1873 East Mall, Vancouver, BC V6T 1Z1. Website: web.arts.ubc.ca/econ. **PG** 49. **PR** **JE** D82, H21, H23. **KW** Taxation. Redistribution. Multidimensional Screening.

AB This paper characterizes an optimal redistribution program when taxation authorities: (1) are uninformed about individuals' value of time in both market and non-market activities, (2) can observe both market-income and time allocated to market employment, and (3) are utilitarian. Formally, the problem is a special case of a multidimensional screening problem with two dimensions of unobserved attributes. In contrast to much of the optimal income taxation literature, we show that optimal redistribution in this environment involves distorting market employment upwards for low net-income individuals (through negative marginal income taxes or employment subsidies) and distorting employment downward for high net-income individuals (through positive marginal income taxes). It is also shown that workfare should be used as a means of redistributing income only as a last recourse.

Bevia, Carmen

PD June 1997. **TI** Buying Several Indivisible Goods

AU Bevia, Carmen; Quinzii, Martine; Silva, Jose A. **AA** Bevia: University of Barcelona. Quinzii: University of California, Davis. Silva: University of Alicante. **SR** University of California, Davis, Department of Economics Working Paper: 97/20; Department of Economics, University of California, Davis, CA 95616-8578. **PG** 33. **PR** $3.00 U.S. and Canada, $4.00 international; make checks payable to "Regents of the University of California.". **JE** D51. **KW** Indivisible Goods. Equilibrium Prices. Submodularity. Cardinality Condition. Reservation Values.

AB This paper studies economics where agents exchange indivisible goods and money. Agents have potential use for all indivisible goods and the indivisible goods are differentiated. We assume that agents have quasi- linear utilities in money, have sufficient money endowments to afford any group of objects priced below their reservation values, have reservation values which are submodular and satisfy the Cardinality Condition. This Cardinality Condition requires that for each agent the marginal utility of an object only depend on the number of objects to which it is added, not on their characteristics. Under these assumptions, we show that the set of competitive equilibrium prices is a non-empty lattice and that, in any equilibrium, the price of an object is between the social value of the object and its value in its second best use.

Bhalotra, Sonia R.

PD February 1998. **TI** Investigating Rationality in Wage-Setting. **AA** University of Bristol. **SR** STICERD, London School of Economics Discussion Papers Series: DERP/10; STICERD, Room R.415, London School of Economics and Political Science, Houghton Street, London WC2A 2AE, UK. **PG** 51. **PR** no charge. **JE** C23, J41, O15. **KW** Efficiency Wages. Near Rationality. Panel Data. India.

AB This paper investigates the efficiency wage hypothesis and derives a tractable expression for the profit loss incurred by deviations from the efficiency wage. The extent of the wage deviation can be inferred from production function parameters. The resulting profit loss is shown to depend upon the curvature of the effort function and the employment and wage elasticities of output. If the profit loss is small then near rationality may be claimed even if the hypothesis of rationality is statistically rejected. An application to Indian manufacturing is presented, which suggests that rationality cannot be rejected and that the profit function is remarkably flat around the optimum. This is consistent with positive effort returns to increasing the wage beyond its efficient level.

PD February 1998. **TI** Intrahousehold Resource Allocation in Rural Pakistan: A Semiparametric Analysis. **AU** Bhalotra, Sonia R.; Attfield, Cliff. **AA** University of Bristol. **SR** STICERD, London School of Economics Discussion Papers Series: DERP/11; STICERD, Room R.415, London School of Economics and Political Science, Houghton Street, London WC2A 2AE, UK. **PG** 37. **PR** no charge. **JE** C14, D12, I12. **KW** Semiparametric Estimation. Pakistan. Resource Allocation. Gender Bias. Engel Curves.

AB We estimate semiparametric Engel curves for rural Pakistan using a large household survey. This allows us to obtain consistent estimates of the effects of household size and composition on consumption patterns even when these demographic variables are correlated with an unknown function of income. The coefficients on the household composition variables are used to infer patterns of intrahousehold allocation. While there is little evidence of gender bias amongst children, adult males appear to get more than adult females. There is a tendency amongst males for workers to get more than dependents. There is no evidence of differential treatment of the elderly and higher birth-order children. We identify substantial economics of size in food consumption. We also find that Engel curves for food, adult goods and child goods are nonlinear, which suggests that the PIGLOG class of demand models is inappropriate.

Bianco, Magda

PD March 1997. **TI** Diversification and Synergies: Effects on Profitability. **AA** Banca d'Italia. **SR** STICERD, London School of Economics Discussion Papers Series: EI/17; STICERD, Room R.415, London School of Economics and Political Science, Houghton Street, London WC2A 2AE, UK. **PG** 31. **PR** no charge. **JE** D21, L20. **KW** Diversification. Profitability. Selection Bias.

AB This paper addresses the question of the effects of diversification strategies on firms' profitability. Empirical analyses do not seem to confirm the hypothesis that diversification is the optimal response to the presence of synergies and hence generates higher profits. It is shown that this might be either the effect of distortions due to the omission of some other factors that affect the efficiency of firms, or the result of selection bias. Diversified firms, in fact, may be the less efficient firms, just able to survive due to the synergies they achieve diversifying.

Black, Duncan Bland

PD January 1997. **TI** Urban Growth. **AU** Black, Duncan Bland; Henderson, Vernon. **AA** Brown University. **SR** Brown University, Department of Economics Working Paper: 97/01; Department of Economics, Brown University, Providence, RI 02912. **PG** 44. **PR** no charge. **JE** E20, J24, O40. **KW** Endogenous Growth. Urban Growth. Urban Development. Inequality.

AB This paper models and examines empirically the evolution of cities in an economy. Twentieth century evolution in the USA is characterized by parallel growth of individual sizes of different types of cities and on- going entry of new cities, together maintaining a stable relative size distribution of cities. Each type of cities has a particular industrial composition and good(s) it specializes in and corresponding equilibrium size. This evolution is modeled in an economy with exogenous population growth and endogenous human capital accumulation. Within cities, these are knowledge spillovers, as well as scale externalities. Individual city sizes grow with human capital accumulation; and cities grow in number, if national population growth is high enough. Different types of cities grow in parallel in size and human capital accumulation. However, per capita income and human capitals levels differ across city types by production process and benefits of human investments and spillovers, so there is observed inequality across cities, among otherwise identical individuals.

Black, Stanley

PD September 1996. **TI** Issues in Korean Exchange Rate Policy. **AA** University of North Carolina. **SR** National Bureau of Economic Research Working Paper: 5747; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. Website: www.nber.org. **PG** 19. **PR** $5.00. **JE** E31, E58, F21, F31. **KW** Korea.

Exchange Rates. Foreign Exchange. Financial Liberalization.
AB Korea faces a number of unique problems that affect its exchange rate policy. Among these are its asymmetric competitive position vis-a-vis Japan, which is both its major supplier of machine tools and a leading competitor in third markets; the current policy of financial liberalization that goes along with democratic liberalization; and the implications of the potential future unification of the Korean peninsula. This paper considers the question of exchange rate policy for Korea in the face of fluctuations in the yen/dollar rate, increasing competition from lower cost Asian countries, and financial liberalization. The paper deals with external vs. internal targets, choice of external comparison basket, and the effects of financial liberalization. The Korean choice of an independent exchange rate policy is analyzed in terms of trade-off between external shocks and inflation-fighting credibility of the central bank. Financial liberalization brings with it increased capital mobility.

Blackorby, Charles

PD January 1997. **TI** Social Aggregation and the Expected Utility Hypothesis. **AU** Blackorby, Charles; Donaldson, David; Weymark, John A. **AA** University of British Columbia. **SR** University of British Columbia, Department of Economics, Discussion Paper: 97/05; University of British Columbia, Department of Economics, #997-1873 East Mall, Vancouver, B.C., Canada, V6T 1Z1. Website:web.arts.ubc.ca/econ. **PG** 48. **PR JE** D71, D81. **KW** Harsanyi's Aggregation Theorem. Social Choice. Utilitarianism.
AB Sen's social-evaluation-functional framework is used to reformulate Harsanyi's social aggregation problem so that both single-profile and multi-profile issues can be considered with allowance made for different assumptions concerning the measurability and comparability of individual utilities. Uncertainty is modeled using state-contingent alternatives with fixed state probabilities. Individual utility functions and social preferences are required to satisfy the expected utility hypothesis. On various domains, we investigate the extent to which the expected utility hypothesis can provide support for weighted utilitarianism when the social aggregation procedure is Paretian.

PD February 1997. **TI** Critical-Level Utilitarianism and the Population-Ethics Dilemma. **AU** Blackorby, Charles; Bossert, Walter; Donaldson, David. **AA** Blackorby and Donaldson: University of British Columbia. Bossert: University of Walterloo. **SR** University of British Columbia, Department of Economics, Discussion Paper: 97/06; Department of Economics; University of British Columbia; #997-1873 East Mall; Vancouver, BC V6T 1Z1. Website: web.arts.ubc.ca/econ. **PG** 34. **PR JE** D63, D71. **KW** Ethics. Population. Social Choice.
AB Principles for the social evaluation of states of affairs with different population sizes, such as Classical Utilitarianism, often lead to the repugnant conclusion. Those that avoid it may have other ethically unattractive features. Average Utilitarianism does not lead to the repugnant conclusion but, in some cases, considers the addition of individuals whose lives are below neutrality to a utility-unaffected population to be good. Principles in the Critical-Level Utilitarian (CLU) family with critical levels of utility above neutrality avoid the repugnant conclusion, and their performance is compared with other principles in this paper. In addition, the performance of the Critical- Level Generalized Utilitarian (CLGU) family, a set of principles which generalizes CLU to allow for inequality aversion in well-being, is investigated. We argue that the CLU and CLGU families provide the most satisfactory principles for the moral evaluation of states of affairs with different populations or population sizes.

PD February 1997. **TI** Critical Levels And The (Reverse) Repugnant Conclusion. **AU** Blackorby, Charles; Bossert, Walter; Donaldson, David; Fleurbaey, Marc. **AA** Blackorby and Donaldson: University of British Columbia. Bossert: University of Waterloo. Fleurbaey: Universite de Cergy-Pontoise. **SR** University of British Columbia Department of Economics Discussion Paper: 97/10; Department of Economics, University of British Columbia, #997-1873 East Mall,Vancouver, BC V6T 1Z1. Website: web.arts.ubc.ca/econ. **PG** 14. **PR JE** D63. **KW** Population Ethics. Repugnant Conclusion. Critical Levels.
AB It is well-known that there is a trade-off regarding the properties of population principles that are used to make social evaluations when the number of people in the society under consideration may vary. The commonly used principles either lead to the repugnant conclusion (which is the case for classical utilitarianism), or they violate the Pareto plus principle and related properties (average utilitarianism is an example of such a principle). This paper examines the nature of this trade-off and shows that the incompatibility between avoiding the repugnant conclusion and the Pareto plus principle is fundamental and not restricted to the commonly used population principles.

PD September 1997. **TI** Rationalizable Solutions to Pure Population Problems. **AU** Blackorby, Charles; Bossert, Walter; Donaldson, David. **AA** Blackorby and Donaldson: University of British Columbia. Bosset:University of Nottingham. **SR** University of British Columbia, Department of Economics, Discussion Paper: 97/16; Department of Economics, University of British Columbia, #997-1873 East Mall, Vancouver, BC V6T 1Z1. Website: web.arts.ubc.ca/econ. **PG** 15. **PR JE** D63. **KW** Population Problems. Social Choice. Rationalizability.
AB In pure population problems, a single resource is to be distributed equally among the agents in a society, and the social planner chooses population size(s) and per-capita consumption(s) for each resource constraint and set of feasible population sizes within the domain of the solution. This paper shows that a weak condition regarding the possible choice of a zero population is necessary and sufficient for the rationalizability of a solution by a welfarist social ordering. In addition, solutions that are rationalized by critical-level generalized utilitarianism are characterized by means of a homogeneity property.

TI Taxes and Employment Subsidies in Optimal Redistribution Programs. **AU** Beuadry, Paul; Blackorby, Charles.

PD December 1997. **TI** Price-Independent Welfare Prescriptions and Population Size. **AU** Blackorby, Charles; Bossert, Walter; Donaldson, David. **AA** Blackorby and Donaldson: University of British Columbia. Bossert: University of Nottingham. **SR** University of British Columbia, Department of Economics, Discussion Paper: 97/22; Department of Economics, University of British Columbia, #997-1873 East Mall, Vancouver, BC V6T 1Z1. **WS** Website:web.arts.ubc.ca/econ. **PG** 11. **PR JE** D63.

KW Price-Independent Welfarism. Population Ethics.
AB This note investigates the extension of Roberts' price-independent welfare prescriptions to alternatives in which population size and composition can vary. We show that ethically unsatisfactory orderings result. Suppose that a single person is to be added to a population that is unaffected in utility terms. Either all such additions must be regarded as bad or some expansions in which the added person's life is not worth living must be ranked as social improvements.

Blau, Francine D.

PD July 1996. **TI** Where Are We In the Economics of Gender? The Gender Pay Gap. **AA** Cornell University and National Bureau of Economic Research. **SR** National Bureau of Economic Research Working Paper: 5664; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. Website: www.nber.org. **PG** 24. **PR** $5.00. **JE** J16, J23, J31, J71. **KW** Employment. Wage Inequality. Wages. Wage Determination.
AB Empirical research on gender pay gaps has traditionally focused on the role of gender-specific factors, particularly gender differences in qualifications and differences in the treatment of otherwise equally qualified male and female workers (i.e., labor market discrimination). This paper explores the determinants of the gender pay gap and argues for the importance of an additional factor, wage structure, the array of prices set for labor market skills and the rewards received for employment in favored sectors. Drawing on joint work with Lawrence Kahn, I illustrate the impact of wage structure by presenting empirical results analyzing its effect on international differences in the gender gap and trends over time in the gender differential in the U.S.

Bloemhof-Ruwaard, Jacqueline

TI Quantitative Models for Reverse Logistics: A Review. **AU** Fleischmann, Moritz; Bloemhof-Ruwaard, Jacqueline; Dekker, Rommert; Van Der Laan, Erwin; Van Nunen, Jo; Van Wassenhove, Luk N.

Bloom, David

PD October 1996. **TI** Child Support and Fathers' Remarriage and Fertility. **AU** Bloom, David; Conrad, Cecilia; Miller, Cynthia. **AA** Bloom: Harvard University and National Bureau of Economic Research. Conrad: Pomona College. Miller: Manpower Demonstration Research Corporation. **SR** National Bureau of Economic Research Working Paper: 5781; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. Website: www.nber.org. **PG** 27. **PR** $5.00. **JE** J12, J13. **KW** Remarriage. Child Support. Children.
AB This paper tests the hypothesis that child support obligations impede remarriage among nonresident fathers. Hazard models fit to data from the National Longitudinal Survey of Youth and from the Survey of Income and Program Participation reveal that child support obligations deter remarriage among low-income nonresident fathers. The benefits to children of stricter child support enforcement are thus diminished by the negative effects of child support on remarriage, as a substantial share of nonresident fathers remarry and help support women with children. Indeed, simple calculations based on our findings suggest that the financial benefits to children in single-parent families of improved enforcement may be substantially or completely offset by the negative effects of enforcement that operate indirectly through diminished remarriage. The results provide no evidence that child support influences the nature of matches in the remarriage market or the likelihood of subsequent fertility.

Board, Raymond

PD December 1996. **TI** Smart Systems and Simple Agents: Industry Pricing by Parallel Rules. **AU** Board, Raymond; Tinsley, P. A. **AA** Board of Governors of the Federal Reserve System. **SR** Board of Governors of the Federal Reserve System Finance and Economics Discussion Series: 1996/50; Ms. Karen Blackwell, FEDS Secretary, Mail Stop 77, Federal Reserve Board, Washington, DC 20551. Website: www.bog.frb.fed.us/pubs/feds. **PG** 31. **PR** no charge. **JE** E23, E31, E32. **KW** Costly Communications. Jacobi Solutions. Producer Pricing. Representative Agent. Heterogeneous Agents.
AB A standard macroeconomic specification is that the aggregate economy is directed by a single, smart representative agent using optimal decision rules. This paper explores an alternative conjecture that the dynamic behavior of markets is often better interpreted as the interactions of many heterogeneous, rule-of-thumb agents who are loosely-coupled in smart systems -- much like the contrast of a single serial processor with global information versus parallel processors with limited communications. The illustration used in this paper is the contrast between a conventional macro model of sluggish adjustments in an aggregate producer price index and a model of delayed industry price adjustments in a distributed production system under costly inter-firm communication.

Bollerslev, Tim

TI Heterogeneous Information Arrivals and Return Volatility Dynamics: Uncovering the Long-Run in High Frequency Returns. **AU** Andersen, Torben G.; Bollerslev, Tim.

TI DM-Dollar Volatility: Intraday Activity Patterns, Macroeconomic Announcements, and Longer Run Dependencies. **AU** Andersen, Torben G.; Bollerslev, Tim.

Bomfim, Antulio N.

PD September 1997. **TI** Bounded Rationality and Strategic Complementarity in a Macroeconomic Model: Policy Effects, Persistence, and Multipliers. **AU** Bomfim, Antulio N.; Diebold, Francis X. **AA** Bomfim: Federal Reserve Board. Diebold: University of Pennsylvania. **SR** Federal Reserve Bank of Philadelphia Research Working Paper: 97/18; Working Papers, Department of Research, Federal Reserve Bank of Philadelphia, 101 Independence Mall, Philadelphia, PA 19106. Website: www.phil.frb.org/econ/index.html. **PG** 44. **PR** no charge except overseas airmail, $3.00; checks/money orders in U.S. funds payable to Federal Reserve Bank of Philadelphia. **JE** C53, E13, E61. **KW** Bounded Rationality. Strategic Complementarity. Macroeconomic Model.
AB Motivated by recent developments in the bounded rationality and strategic complementarity literatures, we examine an intentionally simple and stylized aggregate economic model when the assumptions of fully rational expectations and no strategic interactions are relaxed. We show that small deviations from rational expectations, taken alone, lead only to small deviations from classical policy-ineffectiveness, but that the situation can change dramatically

when strategic complementarity is introduced. Strategic complementarity magnifies the effects of even small departures from rational expectations, producing equilibria with policy effectiveness, output persistence, and multiplier effects.

Bonanno, Giacomo

PD January 1997. **TI** Assessing the Truth Axiom Under Incomplete Information. **AU** Bonanno, Giacomo; Nehring, Klaus. **AA** University of California, Davis. **SR** University of California, Davis, Department of Economics Working Paper: 97/03; Department of Economics, University of California, Davis, CA 95616-8578. **PG** 39. **PR** $3.00 U.S. and Canada, $4.00 international; make checks payable to "Regents of the University of California.". **JE** C70. **KW** Common Beliefs. Agreeing to Disagree. Betting Gains. Truth Axiom. Caution.

AB Within an incomplete information framework (where the primitives are the individuals' belief hierarchies) we investigate the intersubjective implications of the assumption that it is common belief that no individual has any false beliefs (a key component of the Truth Axiom). We consider two types of intersubjective conditions: (1) qualitative agreement and unbounded gains from betting, and (2) a notion of intersubjective caution. The entire analysis is carried out locally.

PD June 1997. **TI** Agreeing to Disagree: A Survey. **AU** Bonanno, Giacomo; Nehring, Klaus **AA** University of California, Davis. **SR** University of California, Davis, Department of Economics Working Paper: 97/18; Department of Economics, University of California, Davis, CA 95616-8578. **PG** 38. **PR** $3.00 U.S. and Canada, $4.00 international; make checks payable to "Regents of the University of California.". **JE** C70. **KW** Common Beliefs. Common Knowledge. Agreement Theorem. Common Prior. Harsanyi Consistency.

AB Aumann (1976) put forward a formal definition of common knowledge and used it to prove that two "like minded" individuals cannot "agree to disagree" in the following sense. If they start from a common prior and update the probability of an event E (using Bayes' rule) on the basis of private information, then it cannot be common knowledge between them that individual 1 assigns probability p to E and individual 2 assigns probability q to E with p not equal to q. In other words, if their posteriors of event E are common knowledge then they must coincide. Aumann's Agreement Theorem has given rise to a large literature which is reviewed in this paper. The results are classified according to whether they are probabilistic (Bayesian) or qualitative. Particular attention is paid to the issue of how to interpret the notion of Harsanyi consistency as a (local) property of belief hierarchies.

PD June 1997. **TI** Introduction to the Semantics of Belief and Common Belief. **AU** Bonanno, Giacomo; Nehring, Klaus. **AA** University of California, Davis. **SR** University of California, Davis, Department of Economics Working Paper: 97/19; Department of Economics, University of California, Davis, CA 95616-8578. **PG** 21. **PR** $3.00 U.S. and Canada, $4.00 international; make checks payable to "Regents of the University of California.". **JE** C70. **KW** Beliefs. Common Beliefs. Truth Axiom. Negative Introspection.

AB We provide an introduction to interactive belief systems from a qualitative and semantic point of view. Properties of belief hierarchies are formulated locally. Among the properties considered are "Common belief in no error" (which has been shown to have important game theoretic applications), "Negative introspection of common belief" and "Truth about common belief." The relationship between these properties is studied.

PD June 1997. **TI** Epistemic Foundations of Solution Concepts in Game Theory: An Introduction. **AU** Bonanno, Giacomo; Nehring, Klaus. **AA** University of California, Davis. **SR** University of California, Davis, Department of Economics Working Paper: 97/21; Department of Economics, University of California, Davis, CA 95616-8578. **PG** 37. **PR** $3.00 U.S. and Canada, $4.00 international; make checks payable to "Regents of the University of California.". **JE** C70. **KW** Beliefs. Common Beliefs. Rationalizability. Correlated Equilibrium. Nash Equilibrium.

AB We give an introduction to the literature on the epistemic foundations of solution concepts in game theory. Only normal-form games are considered. The solution concepts analyzed are rationalizability, strong rationalizability, correlated equilibrium and Nash equilibrium. The analysis is carried out locally in terms of properties of the belief hierarchies. Several examples are used throughout to illustrate definitions and concepts.

Boozer, Michael

PD February 1996. **TI** The Private Demand for Information and the Effects of Public Testing Programs: The Case of HIV. **AU** Boozer, Michael; Philipson, Tomas. **AA** Boozer: Yale University. Philipson: University of Chicago. **SR** Yale Economic Growth Center Discussion Paper: 750; Economic Growth Center, Publications Office, Yale University, P.O. Box 208269, New Haven, CT 06520-2869. Website: www.library.yale.edu/socsci/egcpage.html. **PG** 55. **PR** $2.00 plus postage. **JE** D82, I11, I12, I18. **KW** HIV. Asymmetric Information. Survey Decision. Health Care.

AB This paper provides a theoretical and empirical analysis of the impact of private HIV information on sexual activity showing how the private information provided by a public testing program would change the allocation of information generated in absence of the program. The theoretical analysis implies that mainly low-risk HIV-positive and high- risk HIV-negative individuals will respond to a public testing program, and that total response may be small due to offsetting effects masked by aggregation. The authors address these implications emipirically using a longitudinal survey that imitated a public HIV testing program. The authors find that inducing private information increased the volume of sexual contact by 16 percent for high-risk HIV-negative respondents and had little effect on high-risk HIV-positives. They conclude by discussing the general implications the analysis has for empirical work that attempts to directly sample information and information changes in assessing theoretical models of informational effects on market equilibria.

Bordo, Michael

PD August 1996. **TI** Why Clashes Between Internal and External Stability Goals End In Currency Crises, 1797-1994. **AU** Bordo, Michael; Schwartz, Anna J. **AA** Bordo: Rutgers University and National Bureau of Economic Research. Schwartz: National Bureau of Economic Research. **SR** National Bureau of Economic Research Working Paper: 5710; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. Website: www.nber.org. **PG** 48. **PR** $5.00. **JE** E58, E63, F31,

N10. **KW** Currency Crises. Exchange Rates. Foreign Exchange. Monetary Policy.
AB We argue that recent currency crises reflect clashes between fundamentals and pegged exchanged rates, just as did crises in the past. We reject the view that crises reflect self-building prophecies that are not closely related to measured fundamentals. Doubts about the timing of a market attack on a currency are less important than the fact that it is bound to happen if a government's policies are inconsistent with pegged exchanged rates. We base these conclusions on a review of currency crises in the historical record under metallic monetary regimes and of crises post-World War II under Bretton Woods, and since, in European and Latin American pegged exchange rate regimes.

Bossert, Walter

TI Critical-Level Utilitarianism and the Population-Ethics Dilemma. **AU** Blackorby, Charles; Bossert, Walter; Donaldson, David.

TI Critical Levels And The (Reverse) Repugnant Conclusion. **AU** Blackorby, Charles; Bossert, Walter; Donaldson, David; Fleurbaey, Marc.

TI Rationalizable Solutions to Pure Population Problems. **AU** Blackorby, Charles; Bossert, Walter; Donaldson, David.

TI Price-Independent Welfare Prescriptions and Population Size. **AU** Blackorby, Charles; Bossert, Walter; Donaldson, David.

Bostic, Raphael W.

PD December 1997. **TI** The Role of Race in Mortgage Lending: Revisiting the Boston Fed Study. **AA** Board of Governors of the Federal Reserve System. **SR** Board of Governors of the Federal Reserve System, Finance and Economics Discussion Paper Series: 1997/2; Ms. Karen Blackwell, FEDS Secretary, Mail Stop 77, Federal Reserve Board, Washington, DC 20551. Website: www.bog.frb.fed.us/pubs/feds. **PG** 44. **PR** no charge. **JE** G14, G21, J15, J71. **KW** Discrimination. Mortgages. Race. Credit Risk. Banking.
AB This paper reexamines claims that non-economic discrimination persists in mortgage loan origination decisions. I find that racial differences in outcomes do exist, as minorities fare worse regarding debt-to-income requirements but better for loan-to-value requirements. Overall, significant racial differentials exist only for "marginal" applicants and are not present for those with higher incomes or those without credit problems. Thus, the claim that non-economic discrimination is a general phenomenon is refuted. Further, I can say little regarding the existence of discrimination among "marginal" applicants. To conclude that such discrimination exists, one must prove that the observed differences are not due to economic factors.

Bound, John

PD July 1996. **TI** Demand Shifts, Population Adjustments, and Labor Market Outcomes During the 1980s. **AU** Bound, John; Holzer, Harry J. **AA** Bound: University of Michigan and National Bureau of Economic Research. Holzer: Michigan State University. **SR** National Bureau of Economic Research Working Paper: 5685; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. Website: www.nber.org. **PG** 27. **PR** \$5.00. **JE** J11, J23, J31, J61, R23. **KW** Labor Demand. Population Adjustments. Employment. Wages. Regional Economics.
AB In this paper we explore the effects of labor demand shifts and population adjustments across metropolitan areas on the employment and earnings of various demographic groups during the 1980's. Results show that, although earnings and employment deteriorated for less-educated and black males in most areas in the 1980's, there was a good deal of geographic variation in the magnitudes of these changes. Shifts in labor demand across local areas contributed to this variation, and had greater relative impacts on the earnings and employment of these demographic groups. We also find that population shifts across areas, presumably due to migration, at least partially offset the effects of these demand shifts. But less-educated workers showed substantially lower population adjustments in response to these demand shifts. These limited supply responses apparently contributed importantly to relatively greater deterioration of employment and earnings of these groups in declining areas during the 1980's.

Bradford, David

PD July 1996. **TI** The Effects of Tax-Law Changes on Prices in the Property-Casualty Insurance Industry. **AU** Bradford, David; Logue, Kyle. **AA** Bradford: Princeton University and National Bureau of Economic Research. Logue: University of Michigan. **SR** National Bureau of Economic Research Working Paper: 5652; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. Website: www.nber.org. **PG** 58. **PR** \$5.00. **JE** E31, G22, H24, H25, K34. **KW** Insurance. Tax Law. Insurance Premium. Income Tax.
AB During the 1980's, the federal income tax treatment of property- casualty insurers and their policyholders underwent several important changes, the most significant of which came in 1986. This paper develops theoretical predictions for how these changes should have affected the equilibrium prices of property-casualty insurance policies, and explores the extent to which the theoretical predictions are reflected in data on industry experience. The paper is devoted mainly to a careful specification of the income tax rules, and to deriving the connection between predictions about simple forms of insurance policy and industry data on "premiums earned." Although the predicted impact of the changes in the tax rules enacted in 1986 translates into a tax on premiums (net of the cost of acquisition) of up to 13 percent (on medical malpractice, the longest-tail line of insurance, in 1987), it is small relative to the variability of the actual loss experience.

PD September 1996. **TI** Fixing Capital Gains: Symmetry, Consistency and Correctness in the Taxation of Financial Instruments. **AA** Princeton University and National Bureau of Economic Research. **SR** National Bureau of Economic Research Working Paper: 5754; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. Website: www.nber.org. **PG** 74. **PR** \$5.00. **JE** G12, H21, H24, M41. **KW** Capital Gains. Derivatives. Taxation. Financial Instruments.
AB This paper sets forth the requirements for income measurement rules based on realization that are "linear" in the sense that doubling a person's transactions will double the taxable income, and adding one set of transactions to another will result in the sum of the associated income. Under present realization conventions, the tax law cannot be linear because there would then be no limit on tax arbitrage profit via

variations on borrowing with deductible interest and lending tax exempt. The paper assumes transactions are costless. In that case, it is shown that to deal with the intertemporal aspect of the problem requires virtually universal imputation of taxable interest income to basis. To deal with the risk aspect of the problem requires simply that the effective rate of tax on gains and losses be the same. A new method is proposed that satisfies the requirements for linear income measurement.

Bradford, Scott

TI The Heckscher-Ohlin-Vanek Model of Trade: Why Does It Fail? When Does It Work? **AU** Davis, Donald R.; Bradford, Scott; Weinstein, David E.; Shimpo, Kazushige.

Branstetter, Lee

PD October 1996. **TI** Are Knowledge Spillovers International or Intranational in Scope? Microeconometric Evidence from the US and Japan. **AA** University of California, Davis and National Bureau of Economic Research. **SR** National Bureau of Economic Research Working Paper: 5800; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. Website: www.nber.org. **PG** not available. **PR** $5.00. **JE** D80, F15, L15, O31, O38. **KW** Japan. Knowledge Spillovers. Technological Externalities.

AB In a number of theoretical models, it has been shown that technological externalities can generate multiple equilibria in the global pattern of specialization and trade, with different consequences for the relative welfare of the trading countries. In such models, temporary government policies can have lasting effects by pushing the global economy into a particular equilibrium. However, the prediction of multiple equilibria generally hinges on the assumption that the technological externalities are intranational rather than international in scope. In this paper, the author points out important shortcomings in previous attempts to estimate the effects of intranational and international knowledge spillovers. Then, the author provides new estimates of the relative impact of intranational knowledge spillovers on innovation and productivity at the firm level, using previously unexploited panel data. Estimates indicate that knowledge spillovers are primarily intranational in scope, providing empirical confirmation of a crucial assumption in much of the theoretical literature.

Bresnahan, Timothy

PD August 1996. **TI** Market Segmentation and the Sources of Rents from Innovation: Personal Computers in the Late 1980's. **AU** Bresnahan, Timothy; Stern, Scott; Trajtenberg, Manuel. **AA** Bresnahan: Stanford University and National Bureau of Economic Research. Stern: Massachusetts Institute of Technology and National Bureau of Economic Research. Trajtenberg: Tel Aviv University and National Bureau of Economic Research. **SR** National Bureau of Economic Research Working Paper: 5726; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. Website: www.nber.org. **PG** 32. **PR** $5.00. **JE** L13, L15, L63. **KW** Personal Computers. Market Power. Entry Barriers. Innovative Investment.

AB This paper evaluates the sources of transitory market power in the market for personal computers (PC's) during the late 1980's. The authors' analysis is motivated by the coexistence of low entry barriers into the PC industry and high rates of innovative investment by a small number of PC manufacturers. They attempt to understand these phenomena by measuring the role that different principles of product differentiation (PD's) played in segmenting this dynamic market. They measure the separate roles that different PD's played in contributing to transitory market power. In so doing, this paper attempts to account precisely for the market origins of innovative rents in the PC industry. The authors' principal finding is that the PC market was highly segmented along both the Branded (B versus NB) and Frontier (F versus NF) dimensions. The effects of competitive events in any one cluster were confined mostly to that cluster.

Brett, Craig

PD January 1998. **TI** The Determinants of Municipal Tax Rates in British Columbia. **AU** Brett, Craig; Pinkes, Joris. **AA** Brett: University of Essex. Pinkes: University of British Columbia. **SR** University of British Columbia, Department of Economics, Discussion Paper: 98/03; Department of Economics, University of British Columbia, #997-1873 East Mall, Vancouver, BC V6T 1Z1. Website: web.arts.ubc.ca/econ. **PG** 19. **PR** **JE** C14, H25, H71, H73. **KW** Tax Competition. British Columbia. Spatial Statistics.

AB In this paper we study the regional pattern of municipal business property tax rates in the province of British Columbia, Canada. The data provide evidence that locational advantages and size relative to neighboring communities are important in the determination of tax rates. We also find evidence that changes in tax rates react negatively to changes in population, given that a jurisdiction is not large relative to its neighbors. Both facts are consistent with models of asymmetric tax competition.

Brown, Charles

TI The Demand for Cocaine by Young Adults: A Rational Addiction Approach. **AU** Grossman, Michael; Chaloupka, Frank; Brown, Charles.

Bryan, Michael F.

PD October 1996. **TI** Inflation and the Distribution of Price Changes. **AU** Bryan, Michael F.; Cecchetti, Stephen G. **AA** Bryan: Federal Reserve Bank of Cleveland. Cecchetti: Ohio State University and National Bureau of Economic Research. **SR** National Bureau of Economic Research Working Paper: 5793; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. Website: www.nber.org. **PG** 17. **PR** $5.00. **JE** E31, E32. **KW** Inflation. Menu Costs. Business Cycles. Price Change Distribution.

AB This paper reconsiders the empirical evidence connecting inflation to its higher order moments, and in particular, its third moment -- the skewness of the price change distribution. Recently, New Keynesian macroeconomists have shown that the strong positive correlation between inflation and the skewness of the price change distribution is consistent with menu-cost models of price setting behavior. This is a fairly controversial result, prompting other researchers to demonstrate that the same correlations can be found in multi-sector, flexible price models. The authors examine the small-sample properties of the main empirical finding on which this work is based: the positive correlation between the sample mean and sample skewness of price change distributions. Their results show that this particular statistic suffers from a large positive small-sample bias, and demonstrate that the entirety of the observed correlation can be explained by this bias.

Bryson, Jay H.

PD November 1996. **TI** Implications of Economic Interdependence and Exchange Rate Policy on Endogenous Wage Indexation Decisions. **AU** Bryson, Jay H.; Chen, Chih-Huan; Vanhoose, David D. **AA** Bryson: Board of Governors of the Federal Reserve System. Chen and Vanhoose: University of Alabama. **SR** Board of Governors of the Federal Reserve System, International Finance Discussion Paper: 571; Board of Governors of the Federal Reserve System, Division of International Finance, Mail Stop 24, Washington, DC 20551. Website: www.bog.frb.fed.us. **PG** 30. **PR** no charge. **JE** F41. **KW** Interdependent Economics. Wage Indexation. Strategic Substitutes. Strategic Complements.

AB This paper shows how economic interdependence affects wage indexation decisions when monetary authorities do not observe stochastic disturbances. Under a managed exchange rate, atomistic wage setters in interdependent nations will choose the same degree of indexation as they would in a small open economy. Under a flexible exchange rate, the likelihood rises that they will choose a lower degree of indexation than their counterparts in a small open economy as the degree of interdependence rises, as the variance of money demand shocks rise relative to supply shocks, and as supply curves steepen. Finally, wage indexation choices are more likely to be strategic complements as the degree of interdependence rises and as the variance of money demand shocks rises relative to supply shocks.

Buchinsky, Moshe

PD May 1997. **TI** Educational Attainment and the Changing US Wage Structure: Some Dynamic Implications. **AU** Buchinsky, Moshe; Leslie, Phillip. **AA** Buchinsky: Brown University and National Bureau of Economic Research. Leslie: Yale University. **SR** Brown University, Department of Economics Working Paper: 97/13; Department of Economics, Brown University, Providence, RI 02912. **PG** 61. **PR** no charge. **JE** C11, C13, C51, J22, J24, J31. **KW** Dynamic Model. Educational Choices. Wage Structure. Gibbs Sampling. Human Capital.

AB In this study, we develop a dynamic programming model with forecasting behavior of future conditional wage distributions which also incorporates the uncertainty with which future distributions are predicted. The analysis leads to several general conclusions. First, while the mean return to education is relatively higher than the mean return to experience, the return to education is more uncertain, Consequently, more risk-averse individuals tend to invest less in education and more in on-the-job acquisition of experience. Second, the forecasting rule used in forming predictions about future wage distributions has a significant impact on the model's results. It is therefore important to use a realistic model of forecasting behavior when analyzing the acquisition of human capital. To this end it is crucial to incorporate as many sources of uncertainty as possible. In particular our results indicate that including parameter uncertainty significantly alters the models prediction of individuals' behavior. Finally, in the absences of perfect foresight, and all else equal, fewer of the 1980 high school choose to attend college relative to their 1985 counterparts. Moreover, the former cohort never 'catch up' by returning to school later in their careers in order to benefit from the rise in the return to education during that time.

TI On the Number of Bootstrap Repetitions for Bootstrap Standard Errors, Confidence Intervals, and Tests. **AU** Andrews, Donald W. K.; Buchinsky, Moshe.

PD August 1997. **TI** Endogenous Probability of Failure for a Financial Intermediary: A Dynamic Model. **AU** Buchinsky, Moshe; Yosha, Oved. **AA** Buchinsky: Brown University. Yosha: Tel Aviv University. **SR** Brown University, Department of Economics Working Paper: 97/23; Department of Economics, Brown University, Providence, RI 02912. **PG** 53. **PR** no charge. **JE** G11, G18, G21, G24. **KW** Financial Intermediary. Survival Probability. Dynamic Model. Investment Policies. Simulations.

AB We develop a dynamic model in which the probability of failure of an infinitely lived financial intermediary is determined endogenously as a function of observable state and policy variables. The intermediary takes into account the effect of its policy (the interest on deposits, dividend distribution, and risky investments) on the probability of failure, and, hence, on its ability to attract deposits. With the aid of simulations we study the size, riskiness of investment opportunities, and regulatory measures on the optimal policy and the probability of failure. A major finding is that small intermediaries choose policies that render them more risky than large ones. This behavior is not driven by better diversification opportunities for large intermediaries nor by "too big to fail" considerations; it is a consequence of limited liability and is part of an optimal policy in rational expectations in equilibrium. We investigate the implications of our model for the exit rate and the (endogenously determined) size distribution of intermediaries in the industry.

Burchardt, Tania

PD November 1997. **TI** Boundaries Between Public and Private Welfare: A Typology and Map of Services. **AA** London School of Economics. **SR** STICERD, London School of Economics Discussion Papers Series: CASE/2; STICERD, Room R.415, London School of Economics and Political Science, Houghton Street, London WC2A 2AE, UK. **PG** 69. **PR** no charge. **JE** H53, L33. **KW** Private Welfare. Privatization. Government Expenditure.

AB This paper develops a typology of welfare services and attempts to illustrate its use in clarifying discussions about the privatization of welfare and in analyzing changes in expenditure. A third dimension, which concerns the extent of the consumer's decision-making power and turns on the question of agency and exit, is added to the now familiar dimensions of provision and finance. This third dimension is found to have been increasingly important in policy terms, as attempts have been made to reduce the role of the "pure public" sector. The assisted places scheme, NHS glasses vouchers, and tax relief on pension contributions are all examples of policies which sought to promote consumer decision- making. However despite the policy interest in moving from public to private decision, the second half of the paper shows that the impact in terms of changes in patterns of welfare expenditure since 1979/80 has been small.

Burgess, Robin

TI Prediction and Determination of Houshold Permanent Income. **AU** Abul Naga, Ramses H.; Burgess, Robin.

Burgess, Simon M.

PD February 1998. **TI** Early Health Related Behaviors and Their Impact on Later Life Chances: Evidence from the US. **AU** Burgess, Simon M.; Propper, Carol. **AA** University of Bristol and London School of Economics. **SR** STICERD, London School of Economics Discussion Papers Series: CASE/6; STICERD, Room R.415, London School of Economics and Political Science, Houghton Street, London WC2A 2AE, UK. **PG** 34. **PR** no charge. **JE** I12. **KW** Alcohol. Drugs. Anti-Social Behavior. Earnings. Marriage.

AB This paper uses evidence from the United States to examine the impact of adolescent illegal consumption and violent behavior on later life chances. Specifically, the authors look at the effect of such behavior by young men in late adolescence on productivity and household formation ten years on. They find that alcohol and soft drug consumption have no harmful effects on economic prospects in later life. In contrast, hard drug consumption and violent behavior in adolescence are both associated with lower productivity even by the time the individuals are in their late twenties. These effects are substantial and affect earnings levels and earnings growth. These results are robust to the inclusion of a rich set of additional controls measuring aspects of the individuals' backgrounds. However, no evidence is found of any of these behaviors significantly affecting household formation.

Burtraw, Dallas

TI Revenue-Raising vs. Other Approaches to Environmental Protection: The Critical Significance of Pre-Existing Tax Distortions. **AU** Goulder, Lawrence; Parry, Ian; Burtraw, Dallas.

Caballero, Ricardo

PD September 1996. **TI** The Macroeconomics of Specificity. **AU** Caballero, Ricardo; Hammour, Mohamad. **AA** Caballero: Massachusetts Institute of Technology and National Bureau of Economic Research. Hammour: Capital Guidance, SARL. **SR** National Bureau of Economic Research Working Paper: 5757; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. Website: www.nber.org. **PG** 33. **PR** $5.00. **JE** E22, E23, E24, E25, E32. **KW** Contracts. Employment. Business Cycles. Rent Appropriation.

AB Specific quasi-rents build up in a wide variety of economic relationships, and are exposed to opportunism unless fully protected by contract. The recognition that such contracts are often incomplete has yielded major insights into the organization of microeconomic exchange. Rent appropriation, we argue, also has important macroeconomic implications. Resources are underutilized, factor markets are segmented, production suffers from technological "sclerosis," job destruction is out of balance with creation, recessions are excessively sharp, and expansions run into bottlenecks. While, depending on the nature of the shock, expansions may require reinforcement or stabilization, recessions should always be softened. In the long run, institutions, such as those governing capital-labor relations, may evolve to alleviate the problem by balancing appropriation. Technology choice will also be affected, with the appropriated factor partially "excluding" the other from production to reduce appropriation -- as manifested in the role capital-labor substitution played in the rise of European unemployment.

Campbell, Jeffrey

PD September 1996. **TI** Aggregate Employment Fluctuations with Microeconomic Asymmetries. **AU** Campbell, Jeffrey; Fisher, Jonas. **AA** Campbell: University of Rochester and National Bureau of Economic Research. Fisher: Federal Reserve Bank of Chicago. **SR** National Bureau of Economic Research Working Paper: 5767; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. Website: www.nber.org. **PG** 23. **PR** $5.00. **JE** E24, J23, J41, J64. **KW** Employment. Unemployment. Job Destruction.

AB We provide a simple explanation for the observation that the variance of job destruction is greater than the variance of job creation: job creation is costlier at the margin than job destruction. As Caballero [2] has argued, asymmetric employment adjustment costs at the establishment level need not imply asymmetric volatility of aggregate job flows. We construct an equilibrium model in which (S,s)-type employment policies respond endogenously to aggregate shocks. The microeconomic asymmetries in the model can dampen the response of total job creation to an aggregate shock and cause it to be less volatile than total job destruction. This is so even though aggregate shocks are symmetrically distributed.

Canner, Glenn

PD January 1997. **TI** The Community Reinvestment Act and the Profitability of Mortgage- Oriented Banks. **AU** Canner, Glenn; Passmore, Wayne. **AA** Federal Reserve Board. **SR** Board of Governors of the Federal Reserve System, Finance and Economics Discussion Paper Series: 1997/07; Ms. Karen Blackwell, FEDS Secretary, Mail Stop 77, Federal Reserve Board, Washington, DC 20551. Website: www.bog.frb.fed.us/pubs/feds. **PG** 27. **PR** no charge. **JE** G21, G28. **KW** CRA. Mortgages. Banking. Profitability.

AB The Community Reinvestment Act (CRA) requires lenders "to help meet the credit needs of the local communities in which they are chartered, consistent with the safe and sound operation of such institutions." For proponents of efficient markets, the CRA is a threat to lender profitability. For others, the CRA has the potential to increase profitability. We examine the relative profitability of commercial banks that specialize in mortgage lending in lower-income neighborhoods or to lower-income borrowers using three different techniques, and find that lenders active in lower-income neighborhoods and with lower-income borrowers appear to be as profitable as other mortgage-oriented commercial banks.

Canzoneri, Matthew

PD July 1996. **TI** Relative Labor Productivity and the Real Exchange Rate in the Long Run: Evidence for a Panel of OECD Countries. **AU** Canzoneri, Matthew; Cumby, Robert; Diba, Behzad. **AA** Canzoneri and Diba: Georgetown University. Cumby: Georgetown University and National Bureau of Economic Research. **SR** National Bureau of Economic Research Working Paper: 5676; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. Website: www.nber.org. **PG** 24. **PR** $5.00. **JE** E31, F31, J24. **KW** Foreign Exchange. Exchange Rates. Purchasing Power Parity. Labor Productivity. OECD.

AB The Balassa-Samuelson model, which explains real exchange rate movements in terms of sectoral productivities, rests on two components. First, for a class of technologies including Cobb-Douglas, the model implies that the relative price of non-traded goods in each country should reflect the relative productivity of labor in the traded and non- traded goods sectors. Second, the model assumes that purchasing power parity holds for traded goods in the long run. Each of these implications is tested using data from a panel of OECD countries. The results suggest that the first of these two components fits the data quite well. The evidence on purchasing power parity in traded goods is considerably less favorable. Looking at U.S. dollar exchange rates, PPP does not appear to hold for traded goods. On the other hand, for DM exchange rates PPP appears to be a somewhat better characterization of traded goods prices.

Card, David

PD July 1996. **TI** Deregulation and Labor Earnings in the Airline Industry. **AA** Princeton University and National Bureau of Economic Research. **SR** National Bureau of Economic Research Working Paper: 5687; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. Website: www.nber.org. **PG** 36. **PR** $5.00. **JE** J31, L51, L93. **KW** Wage Structure. Deregulation. Airlines.

AB This paper uses a variety of data sources to study the effect of deregulation on the structure of wages in the airline industry. Microdata from the 1980 and 1990 Censuses show a ten percent decline in the relative earnings of airline workers after deregulation, with roughly similar declines for industry-specific occupations (pilots and flight attendants) and general occupations (managers and secretaries). Union contract data for pilots, flight attendants and mechanics at the major firms show similar trends in the levels of earnings along with a rise in inter-firm wage inequality, especially for pilots. Finally, data from the displaced worker surveys reveal that airline workers experienced similar wage losses to job-losers from other industries over the 1980's. Taken as a whole, the evidence suggests that the rent premiums earned by airline workers in the regulatory era were relatively modest, and comparable to the wage premiums earned in many other sectors.

PD August 1996. **TI** Do Financial Incentives Encourage Welfare Recipients to Work? Evidence From a Randomized Evaluation of the Self-Sufficiency Project. **AU** Card, David; Robins, Philip K. **AA** Card: Princeton University and National Bureau of Economic Research. Robins: University of Miami. **SR** National Bureau of Economic Research Working Paper: 5701; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. Website: www.nber.org. **PG** not available. **PR** $5.00. **JE** H20, I38, J38. **KW** Canada. Welfare. Work Incentives. Employment.

AB This paper reports on a randomized evaluation of an earnings subsidy offered to long-term welfare recipients in Canada. The program, known as the Self-Sufficiency Project (SSP), provides a supplement equal to one-half of the difference between a target earnings level and a participant's actual earnings. The SSP supplement is similar to a negative income tax with two important differences: (1) eligibility is limited to long-term welfare recipients who find a full-time job, and (2) the payment depends on individual earnings rather than family income. The authors' evaluation is based on a randomized design: one half of a group of single parents who had been on welfare for over a year were eligible to receive the SSP supplement, while the other half were the control group. Results for an early cohort of SSP participants and controls suggest that the incentives of SSP increase labor market attachment and reduce welfare participation.

PD August 1996. **TI** School Resources and Student Outcomes: An Overview of the Literature and New Evidence from North and South Carolina. **AU** Card, David; Krueger, Alan. **AA** Card and Krueger: Princeton University and National Bureau of Economic Research. **SR** National Bureau of Economic Research Working Paper: 5708; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. Website: www.nber.org. **PG** 24. **PR** $5.00. **JE** I21, I28, J15, J31. **KW** Education. School Resources. Wages.

AB This paper reviews and interprets the literature on the effect of school resources on students' eventual earnings and educational attainment. In addition, new evidence is presented on the impact of the great disparity in school resources between black and white students in North and South Carolina that existed in the first half of the 20th century, and the subsequent narrowing of these resource disparities. Following birth cohorts over time, gaps in earnings and educational attainment for blacks and whites in the Carolinas tend to mirror the gaps in school resources.

Carliner, Geoffrey

PD September 1996. **TI** The Wages and Language Skills of U.S. Immigrants. **AA** Institute for International Economics. **SR** National Bureau of Economic Research Working Paper: 5763; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. Website: www.nber.org. **PG** 21. **PR** $5.00. **JE** J31, J61. **KW** Wages. Immigration. Language Skills.

AB This paper finds that immigrants on average earned about 50 cents an hour less than native-born Americans in 1989. This paper also finds that when immigrants first arrive in the U.S. they earn significantly less than native workers, but they close the gap by about 0.8 percentage points each year. Improvements in English skills contributed 6 to 18 percent of this narrowing. However, since the 1950's and 1960's the wage gap between natives and newly arrived immigrants has widened by 0.2 to 0.6 percentage points annually. Because they start with a larger disadvantage, the average wage of more recent immigrants may never exceed the average native wage. A decline in the average education of newly arrived immigrants accounts for 4 to 23 percent of the starting wage gap, and shifts in the source countries of new immigrants from Europe to Latin America and Asia account for 73 to 95 percent.

Carlino, Gerald

PD September 1997. **TI** The Differential Regional Effects of Monetary Policy: Evidence from the US States. **AU** Carlino, Gerald; DeFina, Robert. **AA** Carlino: Federal Reserve Bank of Philadelphia. DeFina: Villanova University. **SR** Federal Reserve Bank of Philadelphia Research Working Paper: 97/12; Working Papers, Department of Research, Federal Reserve Bank of Philadelphia, 101 Independence Mall, Philadelphia, PA 19106. Website: www.phil.frb.org/econ/index.html. **PG** 44. **PR** no charge except overseas airmail, $3.00; checks/money orders in U.S. funds payable to Federal Reserve Bank of Philadelphia. **JE** E42, R12. **KW** Regional Effects. Monetary Policy.

AB This paper uses time-series techniques to examine whether monetary policy has similar effects across US states during the 1958-92 period. Impulse response functions from estimated structural vector autoregression models reveal differences in state policy responses, which in some cases are substantial. The paper also provides evidence on the reasons for the measured cross-state differential policy responses. The size of a state's response is significantly related to its industry mix, evidence of an interest rate channel for monetary policy. The state-level data offer no support for recently advanced credit-channel theories for the monetary policy transmission mechanism.

TI On the Evolution of the Spatial Distribution of Employment in Postwar United States. **AU** Chatterjee, Satyajit; Carlino, Gerald.

Carlton, Dennis W.

PD October 1996. **TI** A Critical Assessment of the Role of Imperfect Competition in Macroeconomics. **AA** University of Chicago and National Bureau of Economic Research. **SR** National Bureau of Economic Research Working Paper: 5782; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. Website: www.nber.org. **PG** not available. **PR** $5.00. **JE** E12, E32, L16, O34, O40. **KW** Market Power. New Keynesian. Growth. Taxes. Intellectual Property.

AB New Keynesian models and some models of growth rely on market power for their results. New Keynesian multipliers are closely related to standard measures of deadweight loss used in the public finance literature. The theoretical analysis shows that a standard competitive model with taxes exactly reproduces the multipliers in the new Keynesian models, and the empirical evidence strongly suggests that taxes, not market power, will be the far more important influence on explaining short-run fluctuations in GNP. Theory and the empirical evidence suggest that the existence of intellectual property rights is likely to be a more important determinant of innovation than market power. Finally, the paper shows how models that incorporate the cost of market making, durability and dynamic policies, and timing based on the option value of resolving uncertainty can yield more valuable insights into macroeconomic phenomena than can models with market power.

Carroll, Christopher D.

PD October 1996. **TI** Buffer-Stock Saving and the Life Cycle/Permanent Income Hypothesis. **AA** John Hopkins University and National Bureau of Economic Research. **SR** National Bureau of Economic Research Working Paper: 5788; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. Website: www.nber.org. **PG** 49. **PR** $5.00. **JE** D81, D91, E21. **KW** Savings. Household Savings. Buffer Stock. Life Cycle. Permanent Income.

AB This paper argues that the typical household's saving is better described by a "buffer-stock" version than by the traditional version of the Life Cycle/Permanent Income Hypothsis (LC/PIH) model. Buffer-stock behavior emerges if consumers with important income uncertainty are sufficiently impatient. In the traditional model, consumption growth is determined solely by tastes; in contrast, buffer-stock consumers set average consumption growth equal to average labor income growth, regardless of tastes. The model can explain three empirical puzzles: the "consumption/income parallel" of Carroll and Summers (1991); the "consumption/income divergence" first documented in the 1930's; and the temporal stability of the household age/wealth profile despite the unpredictability of idiosyncratic wealth changes.

Cavalcanti, Ricardo

PD September 1997. **TI** Private Money and Reserve Management in a Random Matching Model. **AU** Cavalcanti, Ricardo; Erosa, Andres; Temzelides, Ted. **AA** Cavalcanti: University of Miami. Erosa: University of Western Ohio. Temzelides: University of Iowa. **SR** Federal Reserve Bank of Philadelphia Research Working Paper: 97/24; Working Papers, Department of Research, Federal Reserve Bank of Philadelphia, 101 Independence Mall, Philadelphia, PA 19106. Website: www.phil.frb.org/econ/index.html. **PG** 56. **PR** no charge except overseas airmail, $3.00; checks/money orders in U.S. funds payable to Federal Reserve Bank of Philadelphia. **JE** E40, E50. **KW** Private Money. Reserve Management. Matching Model.

AB We introduce an element of centralization in a random matching model of money that allows for private liabilities to circulate as media of exchange. Some agents, which we identify as banks, are endowed with the technology to issue notes and to record-keep reserves with a central clearinghouse, which we call the treasury. The liabilities are redeemed according to a stochastic process that depends on the endogenous trades. The treasury removes the banking technology from banks that are not able to meet the redemptions in a given period. This, together with the market incompleteness, gives rise to a reserve management problem for the issuing banks. We demonstrate that "sufficiently patient" banks will concentrate on improving their reserve position instead of pursuing additional issue. The model provides a first attempt to reconcile limited note issue with optimizing behavior by banks during the National Banking Era.

Cavallari, Lilia

TI Policy Making and Speculative Attacks in Models of Exchange Rate Crises: A Synthesis. **AU** Corsetti, Giancarlo; Cavallari, Lilia.

Cawley, John

PD July 1996. **TI** Measuring the Effects of Cognitive Ability. **AU** Cawley, John; Conneely, Karen; Heckman, James J.; Vytlacil, Edward. **AA** Cawley and Vytlacil: University of Chicago. Conneely: Princeton University. Heckman: University of Chicago and National Bureau of Economic Research. **SR** National Bureau of Economic Research Working Paper: 5645; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. Website: www.nber.org. **PG** 17. **PR** $5.00. **JE** J10, J23, J31. **KW** Labor Markets. Wage Inequality. Employment Choice. Cognitive Ability. Meritocracy.

AB This paper presents new evidence from the NLSY on the importance of meritocracy in American society. The authors find that general intelligence, or "g" -- a measure of cognitive ability -- is dominant in explaining test score variance. The weights assigned to tests by "g" are similar for all major demographic groups. These results support Spearman's theory of "g". The authors also find that "g" and other measures of ability are not rewarded equally across race and gender, evidence against the view that the labor market is organized on meritocratic principles. Additional factors beyond "g" are required to explain wages and occupational choice. However, both blue collar and white-collar wages are poorly predicted by "g". Observed cognitive ability is only a minor predictor of social performance. White-collar wages are more "g" loaded than blue-collar wages. Many noncognitive factors determine blue-collar wages.

PD July 1996. **TI** An Empirical Examination of Information Barriers to Trade in Insurance. **AU** Cawley, John; Philipson, Tomas. **AA** Cawley: University of Chicago. Philipson: University of Chicago and National Bureau of Economic Research. **SR** National Bureau of Economic Research Working Paper: 5669; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. Website: www.nber.org. **PG** 28. **PR** $5.00. **JE** D82, G22. **KW** Asymmetric Information. Insurance. Risk. Insurance Premium.
AB The paper tests restrictions implied by the canonical theory of insurance under asymmetric information using ideal data that contains the self-perceived and actual mortality risk of individuals, as well as the price and quantity of their life insurance. The authors find a striking independence of self-perceived risk and the price of insurance. They also find strong evidence of the opposite type of non-linear pricing than predicted by theory; the theory predicts that prices rise with quantity, but we find that they fall. In addition, risk is found to be negatively correlated with the quantity of insurance purchased although the theory predicts a positive correlation. Also, it is found that a substantial fraction of individuals hold multiple insurance contracts. Lastly, the authors test the accuracy of the self-perceived risk of the insured through estimating the induced profits they imply.

Cecchetti, Stephen G.

PD October 1996. **TI** Measuring Short-Run Inflation for Central Bankers. **AA** Ohio State University and National Bureau of Economic Research. **SR** National Bureau of Economic Research Working Paper: 5786; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. Website: www.nber.org. **PG** 26. **PR** $5.00. **JE** E31, E58. **KW** Central Banks. Inflation. Consumer Price Index. Monetary Policy.
AB As central bankers intensify their focus on inflation as the primary goal of monetary policy, it becomes increasingly important to have accurate and reliable measures of changes in the aggregate price level. Measuring inflation is surprisingly difficult, involving two types of problems. Commonly used indices, such as the Consumer Price Index (CPI), contain both transitory noise and bias. Noise causes short-run changes in measured inflation to inaccurately reflect movements in long-run trends, while bias leads the long-run average change in the CPI to be too high. In this paper the author proposes methods of reducing both the noise and the bias in the CPI. Noise reduction is achieved by average monthly inflation in measures called "trimmed means" over longer horizons. Trimmed means are statistics similar to the median that are calculated by ignoring the CPI components with extreme high and low changes each month, and averaging the rest.

TI Inflation and the Distribution of Price Changes. **AU** Bryan, Michael F.; Cecchetti, Stephen G.

Chaloupka, Frank

TI The Demand for Cocaine by Young Adults: A Rational Addiction Approach. **AU** Grossman, Michael; Chaloupka, Frank; Brown, Charles.

PD September 1996. **TI** Price, Tobacco Control Policies and Youth Smoking. **AU** Chaloupka, Frank; Grossman, Michael. **AA** Chaloupka: University of Illinois and National Bureau of Economic Research. Grossman: National Bureau of Economic Research. **SR** National Bureau of Economic Research Working Paper: 5740; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. Website: www.nber.org. **PG** 25. **PR** $5.00. **JE** H22, H23, I12, I18. **KW** Tobacco Control. Youth Smoking. Taxation. Cigarettes.
AB This paper examines the effectiveness of several tobacco control policies in discouraging cigarette smoking among youths. These policies include increased cigarette excise taxes, restrictions on smoking in public places and at private worksites, and limits on the availability of tobacco products to youth. Site specific cigarette prices and measures of tobacco related policies are added to the survey data. The results indicate that tobacco control policies can be effective in reducing youth cigarette smoking. The average overall estimated price elasticity of youth cigarette demand of - 1.313 indicates that large increases in cigarette excise taxes would lead to sharp reductions in youth smoking. Similarly, strong restrictions on smoking in public places would reduce the prevalence of smoking among youths, while limits on smoking in schools would reduce average cigarette consumption among young smokers. However, limits on youth access to tobacco products appear to have little impact on youth cigarette smoking.

Chatterjee, Satyajit

PD April 1997. **TI** On the Optimality of Eliminating Seasonality in Nominal Interest Rates. **AA** Federal Reserve Bank of Philadelphia and The Wharton School. **SR** Federal Reserve Bank of Philadelphia Research Working Paper: 97/02; Working Papers, Department of Research, Federal Reserve Bank of Philadelphia, 101 Independence Mall, Philadelphia, PA 19106. Website: www.phil.frb.org/econ/index.html. **PG** 38. **PR** no charge except overseas airmail, $3.00; checks/money orders in U.S. funds payable to Federal Reserve Bank of Philadelphia. **JE** E50. **KW** Seasonality. Interest Rates. Monetary Policy.
AB Optimal monetary policy for an economy with seasonal fluctuations and a cash-in-advance requirement on the purchase of consumption goods is studied. The short delay in the availability of newly acquired funds for consumption purchases (the hallmark of cash-in-advance models) typically makes the seasonal steady state inefficient. Monetary policy can overcome this inefficiency induced by the payment-system friction by keeping nominal interest rates constant over the seasons. An analytical model is also presented to explore the effects of seasonal smoothing of nominal interest rates on the seasonal amplitude of other, closely related, variables.

PD October 1997. **TI** Minimum Consumption Requirements: Theoretical and Quantitative Implications for Growth and Distribution. **AU** Chatterjee, Satyajit; Ravikumar, B. **AA** Chatterjee: Federal Reserve Bank of Philidelphia. Ravikumar: University of Iowa. **SR** Federal Reserve Bank of Philadelphia Research Working Paper: 97/15; Working Papers, Department of Research, Federal Reserve Bank of Philadelphia, 101 Independence Mall, Philadelphia, PA 19106. Website: www.phil.frb.org/econ/index.html.

PG 45. PR no charge except overseas airmail, $3.00; checks/money orders in U.S. funds payable to Federal Reserve Bank of Philadelphia. JE E21. KW Minimum Consumption. Transitional Effects.

AB We study the impact of a minimum consumption requirement on the rate of economic growth and the evolution of wealth distribution. The requirement introduces a positive dependence between the intertemporal elasticity of substitution and household wealth. This dependence implies a transition phase during which the growth rate of per-capita quantities rise toward their steady-state values and the distributions of wealth, consumption, and permanent income become more unequal. We calibrate the minimum consumption requirement to match estimates available for a sample of Indian villagers and find that these transitional effects are quantitatively significant and depend importantly on the economy's steady-state growth rate.

PD October 1997. TI On the Evolution of the Spatial Distribution of Employment in Postwar United States. AU Chatterjee, Satyajit; Carlino, Gerald. AA Federal Reserve Bank of Philidelphia. SR Federal Reserve Bank of Philadelphia Research Working Paper: 97/26; Working Papers, Department of Research, Federal Reserve Bank of Philadelphia, 101 Independence Mall, Philadelphia, PA 19106. Website: www.phil.frb.org/econ/index.html. PG 70. PR no charge except overseas airmail, $3.00; checks/money orders in U.S. funds payable to Federal Reserve Bank of Philadelphia. JE E24, R12. KW Spatial Distribution. Metropolitan Employment.

AB In this paper, we document a pronounced trend toward deconcentration of metropolitan employment during the postwar period in the United States. The employment share of initially more dense metro areas declined and those of initially less dense metro areas rose. Motivated by this finding, we develop a system-of-cities model in which increase in aggregate metropolitan employment causes employment to shift in favor of less dense metro areas because congestion costs increase more rapidly for the initially more dense metro areas. A calibrated version of the model shows that the more than twofold increase in employment experienced by MSA's during the postwar period was indeed a powerful force favoring deconcentration.

Chen, Chih-Huan

TI Implications of Economic Interdependence and Exchange Rate Policy on Endogenous Wage Indexation Decisions. AU Bryson, Jay H.; Chen, Chih-Huan; Vanhoose, David D.

Chinn, Menzie

PD August 1996. TI Real Exchange Rate Level, Productivity and Demand Shocks: Evidence from a Panel of 14 Countries. AU Chinn, Menzie; Johnston, Louis. AA Chinn: University of California, Santa Cruz. Johnston: Gustavus Adolphus College. SR National Bureau of Economic Research Working Paper: 5709; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. Website: www.nber.org. PG 24. PR $5.00. JE E32, F31. KW Panel Data. Exchange Rates. Cointegration. Foreign Exchange. OECD.

AB This paper investigates the determinants of the real exchange rate. It also marries two literatures -- one which uses panel data to measure relationships between changes in exchange rates to changes in the determinants, and the other which uses cointegration techniques to measure the long-run relationship between the level of the exchange rate and the level of the determining factors. The previous panel studies cannot account for deviations from long-run trend levels, while the extant literature using time series cointegration techniques can only intermittently detect and measure posited relationships. Estimating the relationships in levels is an interesting enterprise because it allows one, in principle, to calculate trend real exchange rates. After surveying the previous literature, a dynamic model of the real exchange rate is used to motivate the empirical exercise. In examining this problem, the authors exploit recent developments in the econometric analysis of nonstationary variables in panel data.

Cho, In-Koo

PD March 1997. TI Learning to Coordinate in Repeated Games. AA Brown University. SR Brown University, Department of Economics Working Paper: 97/07; Department of Economics, Brown University, Providence, RI 02912. PG 37. PR no charge. JE D83. KW Non-Myopic Players. Linear Strategy. Adaptive Learning. Stochastic Approximation. Stochastic Differential Equation.

AB We examine how a boundedly rational agent can learn rational expectations about the opponent's strategic move in a two person infinitely repeated game, where a player is engaged in repeated interactions with the same opponent, trying to maximize his long run payoff. Each player economizes on the estimation of the opponent's strategy by assuming that the opponent's behavior is driven by a linear strategy that selects an action according to a linear function of the empirical distributions of outcomes (Cho 1995). The estimator of the opponent's strategy is updated according to the stochastic gradient method (Marcet and Sargent 1989 and Woodford 1990). In choosing a best response to the estimated strategy of the opponent, each player also economizes on the calculation of the best response (Rubenstein 1986) by minimizing the number of new parameters to be calculated. Under a mild regularity condition on the learning scheme, each player eventually has rational expectations about the opponent's action if the estimator of the opponent's strategy is updated sufficiently quickly in response to the forecasting errors. For any 2x2 coordination game, only one of the two pure strategy Nash equilibria of the component game can be played with positive frequency. Some of the results are extended to general 2x2 infinitely repeated games.

Christiano, Lawrence J.

PD August 1996. TI Chaos, Sunspots, and Automatic Stabilizers. AU Christiano, Lawrence J.; Harrison, Sharon G. AA Christiano: Northwestern University and National Bureau of Economic Research. Harrison: Northwestern University. SR National Bureau of Economic Research Working Paper: 5703; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. Website: www.nber.org. PG 41. PR $5.00. JE D92, H21, H23, O41. KW Growth. Production Externalities. Employment. Taxation.

AB We study a one-sector growth model which is standard except for the presence of an externality in the production function. The set of competitive equilibria is large. It includes constant equilibria, sunspot equilibria, cyclical and chaotic equilibria, and equilibria with deterministic or stochastic regime switching. The efficient allocation is characterized by constant employment and a constant growth rate. We identify an income tax-subsidy schedule that supports the efficient allocation as the unique equilibrium outcome. That schedule has two properties: (i) it specifies the tax rate to be an increasing function of aggregate employment, and (ii) earnings are subsidized when aggregate employment is at its efficient level. The first feature eliminates inefficient, fluctuating equilibria, while the second induces agents to internalize the externality.

PD October 1996. **TI** Sticky Price and Limited Participation Models of Money: A Comparison. **AU** Christiano, Lawrence J.; Eichenbaum, Martin; Evans, Charles L. **AA** Christiano and Eichenbaum: Northwestern University and National Bureau of Economic Research. Evans: Federal Reserve Bank of Chicago. **SR** National Bureau of Economic Research Working Paper: 5804; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. Website: www.nber.org. **PG** 46. **PR** $5.00. **JE** E31, E51, E52. **KW** Monetary Policy. Transmission Mechanism. Sticky Prices. Limited Participation.

AB This paper provides new evidence that models of the monetary transmission mechanism should be consistent with at least the following facts. In response to a contractionary monetary policy shock, the aggregate price level responds very little, aggregate output falls, interest rates initially rise, real wages decline, though by a modest amount, and profits fall. The paper argues that neither sticky price nor limited participation models can convincingly account for these facts. The key failing of the sticky price model is that it implies profits rise after a contractionary monetary policy shock. In contrast, the limited participation model can account for all of the facts mentioned above, but only if one is willing to assume a high labor supply elasticity and a high average markup. The shortcomings of both models reflect the absence of other frictions, which dampen movements in the marginal cost of production after a monetary policy shock.

Christoffersen, Peter F.

PD 1997. **TI** Optimal Prediction Under Asymmetric Loss. **AU** Christoffersen, Peter F.; Diebold, Francis X. **AA** Christoffersen: International Monetary Fund. Diebold: University of Pennsylvania. **SR** Federal Reserve Bank of Philadelphia Research Working Paper: 97/11; Working Papers, Department of Research, Federal Reserve Bank of Philadelphia, 101 Independence Mall, Philadelphia, PA 19106. Website: www.phil.frb.org/econ/index.html. **PG** 30. **PR** no charge except overseas airmail, $3.00; checks/money orders in U.S. funds payable to Federal Reserve Bank of Philadelphia. **JE** C22, C53. **KW** Optimal Prediction. Asymmetric Loss.

AB Prediction problems involving asymmetric loss functions arise routinely in many fields, yet the theory of optimal prediction under asymmetric loss is not well developed. We study the optimal prediction problem under general loss structures and characterize the optimal predictor. We compute the optimal predictor analytically in two leading tractable cases and show how to compute it numerically in less tractable cases. A key theme is that the conditionally optimal forecast is biased under asymmetric loss and that the conditionally optimal amount of bias is time-varying in general and depends on higher-order conditional moments. Thus, for example, volatility dynamics (e.g., GARCH effects) are relevant for optimal point prediction under asymmetric loss. More generally, even for models with linear conditional-mean structure, the optimal point predictor is general nonlinear under asymmetric loss, which provides a link with the broader nonlinear time series literature.

Christofferson, Peter F.

PD September 1997. **TI** Cointegration and Long-Horizon Forecasting. **AU** Christofferson, Peter F.; Diebold, Francis X. **AA** Christofferson: International Monetary Fund. Diebold: University of Pennsylvania. **SR** Federal Reserve Bank of Philadelphia Research Working Paper: 97/14; Working Papers, Department of Research, Federal Reserve Bank of Philadelphia, 101 Independence Mall, Philadelphia, PA 19106. Website: www.phil.frb.org/econ/index.html. **PG** 48. **PR** no charge except overseas airmail, $3.00; checks/money orders in U.S. funds payable to Federal Reserve Bank of Philadelphia. **JE** C32, C53. **KW** Cointegration. Long-Horizon Forecasting.

AB It is widely believed that imposing cointegration on a forecasting system, if cointegration is, in fact, present, will improve long-horizon forecasts. We show that, contrary to this belief, at long horizons nothing is lost by ignoring cointegration when the forecasts are evaluated using standard multivariate forecast accuracy measures. In fact, simple univariate Box-Jenkins forecasts are just as accurate. Our results highlight a potentially important deficiency of standard forecast accuracy measures -- they fail to value the maintenance of cointegrating relationships among variables -- and we suggest alternatives that explicitly do so.

Chung, Hyung-Jin

TI Efficient Method of Moments Estimation of a Stochastic Volatility Model: A Monte Carlo Study. **AU** Andersen, Torben G.; Chung, Hyung-Jin; Sorensen, Bent E.

Clerides, Sofronis

PD August 1996. **TI** Is "Learning-by-Exporting" Important? Micro-Dynamic Evidence from Colombia, Mexico, and Morocco. **AU** Clerides, Sofronis; Lach, Saul; Tybout, James. **AA** Clerides: Yale University. Lach: Board of Governors of the Federal Reserve System and National Bureau of Economic Research. Tybout: Georgetown University. **SR** National Bureau of Economic Research Working Paper: 5715; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. Website: www.nber.org. **PG** 36. **PR** $5.00. **JE** D24, F14. **KW** Exports. Productivity. International Trade. Efficiency Gap.

AB Is there any empirical evidence that firms become more efficient after becoming exporters? Do firms that become exporters generate positive spillovers for domestically-oriented producers? In this paper we analyze the causal links between exporting and productivity using firm-level panel data from three semi-industrialized countries. Representing export market participation and production costs as jointly dependent autoregressive processes, we look for evidence that firms' stochastic cost processes shift when they break into foreign markets. We find that relatively efficient firms become exporters, but firms' unit costs are not affected by previous export market participation. So the well-known efficiency gap between exporters and non-exporters is due to self- selection of the more efficient firms into the export market, rather than learning by exporting. Further, we find some evidence that exporters reduce the costs of breaking into foreign markets for domestically oriented producers, but they do not appear to help these producers become more efficient.

Coe, David

TI R&D Spillovers and Global Growth. **AU** Bayoumi, Tamim; Coe, David; Helpman, Elhanan.

Conneely, Karen

TI Measuring the Effects of Cognitive Ability. **AU** Cawley, John; Conneely, Karen; Heckman, James J.; Vytlacil, Edward.

Conrad, Cecilia

TI Child Support and Fathers' Remarriage and Fertility. **AU** Bloom, David; Conrad, Cecilia; Miller, Cynthia.

Cooper, Russell W.

PD July 1996. **TI** Dynamic Complementarities: A Quantitative Analysis. **AU** Cooper, Russell W.; Johri, Alok. **AA** Cooper: Boston University and National Bureau of Economic Research. Johri: McMaster University. **SR** National Bureau of Economic Research Working Paper: 5691; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. Website: www.nber.org. **PG** 32. **PR** $5.00. **JE** E22, E23, E24, E32, O47. **KW** Business Cycles. Dynamic Complementarity. Capital Stocks. Productivity.

AB This paper considers the importance of dynamic complementarities as an endogenous source of propagation in a dynamic stochastic economy. Dynamic complementarities link the stocks of human and organizational capital, which are influenced by past levels of economic activity, to current levels of productivity. We supplement an otherwise standard dynamic business cycle model with both contemporaneous and dynamic complementarities. The model is calibrated using estimates of these effects. Our quantitative analysis identifies empirically relevant dynamic complementarities as a source of propagation for both technology and taste shocks.

Corsetti, Giancarlo

PD February 1996. **TI** Policy Making and Speculative Attacks in Models of Exchange Rate Crises: A Synthesis. **AU** Corsetti, Giancarlo; Cavallari, Lilia. **AA** Corsetti: University of Rome III. Cavallari: University of Rome "La Sapienza". **SR** Yale Economic Growth Center Discussion Paper: 752; Economic Growth Center, Publications Office, Yale University, P.O. Box 208269, New Haven, CT 06520-2869. Website: www.library.yale.edu/socsci/egcpage.html. **PG** 26. **PR** $2.00 plus postage. **JE** E52, F31. **KW** Speculative Attacks. Exchange Rates. Arbitrage.

AB This paper discusses within a common analytical framework the logical and analytical links between theories of exchange rate crises that model the abandonment of a peg as an optimizing decision by rational policy makers, and theories that focus on the dynamics of speculative attacks when policies are incoherent with the indefinite defense of the current nominal parity. We show that, in both cases, the condition for a crisis to occur can be expressed by a simple arbitrage rule on exchange rates. We analyze the different economic mechanisms underlying the common arbitrage rule. We also discuss a common mechanism raising the possibility of multiple instantaneous equilibria and self-fulfilling speculative attacks.

Cowell, Frank A.

TI Income Transformation and Income Inequality. **AU** Amiel, Yoram; Cowell, Frank A.

PD April 1997. **TI** Equivalence of Scales and Inequality. **AU** Cowell, Frank A.; Mercader-Prats, Magda. **AA** Cowell: London School of Economics. Mercader-Prats: Universistat Autononoma de Barcelona. **SR** STICERD, London School of Economics Discussion Papers Series: DARP/27; STICERD, Room R.415, London School of Economics and Political Science, Houghton Street, London WC2A 2AE, UK. **PG** 34. **PR** no charge. **JE** C13, D31, D63, I31. **KW** Inequality. Social Welfare. Equivalence Scales. Spain. United Kingdom.

AB Instead of "Inequality analysis sometimes neglects the problem of allowing for differences in people's non-income characteristics in the comparison of income distribution", I would say, "At the heart of any distributional analysis, there is a problem of allowing for differences in people's non-income characteristics." We examine the role of standard equivalence scales in distributional comparisons and the welfare implications of the basis for constructing equivalence scales. We consider the use of alternative approaches that do not require the specification of a single scale and implement one of these in a practical comparison of Spain and the UK.

TI Inequality, Welfare and Monotonicity. **AU** Amiel, Yoram; Cowell, Frank A.

Coyne, Michael

TI Testing Measurement Equivalence in Cross-National Research: An Empirical Test Across U.S. and Japan. **AU** Bensaou, Ben M.; Coyne, Michael; Venkatraman, N.

Craig, Brett

TI Spatial Price Competition: A Semiparametric Approach. **AU** Pinkes, Joris; Slade, Margaret E.; Craig, Brett.

Cullen, Julie

PD September 1996. **TI** Crime, Urban Flight, and the Consequences for Cities. **AU** Cullen, Julie; Levitt, Steven. **AA** Cullen: Massachusetts Institute of Technology. Levitt: Harvard Society of Fellows and National Bureau of Economic Research. **SR** National Bureau of Economic Research Working Paper: 5737; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. Website: www.nber.org. **PG** 28. **PR** $5.00. **JE** J61, R23. **KW** Crime. Urban Depopulation. Panel Data. Migration.

AB This paper demonstrates that rising crime rates in cities are correlated with city depopulation. Instrumental variables estimates, using measures of the certainty and severity of a state's criminal justice system as instruments for city crime rates, imply that the direction of causality runs from crime to urban flight. Using annual city-level panel data, the authors' estimates suggest that each additional reported crime is associated with a one person decline in city residents. There is some evidence that increases in suburban crime tend to keep people in cities, although the magnitude of this effect is small. Analysis of individual-level data from the 1980 census confirms the city- level results and demonstrates that almost all crime-related population decline is attributable to increased out-migration rather than a decrease in new arrivals. The migration decisions of high-income households and those with children are much more responsive to changes in crime than other households.

Cumby, Robert

PD July 1996. **TI** Forecasting Exchange Rates and Relative Prices With the Hamburger Standard: Is What You Want What You Get With McParity? **AA** Georgetown University and National Bureau of Economic Research. **SR** National Bureau of Economic Research Working Paper: 5675; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. Website: www.nber.org. **PG** 13. **PR** $5.00. **JE** E31, F31. **KW** Exchange Rates. Foreign Exchange. Purchasing Power Parity. Big Mac.

AB A decade ago the Economist began an annual survey of Big Mac prices as a guide to "whether currencies are trading at the right exchange rates." This paper asks how well the hamburger standard has performed. Although average deviations from absolute Big Mac parity are large for several currencies, once estimates of these average deviations are removed from the data, the evidence suggests that convergence to relative Big Mac parity is quite rapid. The half-life of deviations from Big Mac parity appear to be about 1 year, which is considerably shorter than estimates of the half-life of deviations from purchasing power parity (4-5 years) that are reported in the literature. In addition, deviations from relative Big Mac parity appear to provide useful information for forecasting exchange rates. A 10 percent undervaluation according to the hamburger standard in one year is associated with a 3.5 percent appreciation over the following year.

TI Relative Labor Productivity and the Real Exchange Rate in the Long Run: Evidence for a Panel of OECD Countries. **AU** Canzoneri, Matthew; Cumby, Robert; Diba, Behzad.

Currie, Janet

PD October 1996. **TI** Does Head Start Help Hispanic Children? **AU** Currie, Janet; Thomas, Duncan. **AA** Currie: University of California, Los Angeles and National Bureau of Economic Research. Thomas: University of California, Los Angeles. **SR** National Bureau of Economic Research Working Paper: 5805; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. Website: www.nber.org. **PG** 35. **PR** $5.00. **JE** I21, I28, J15. **KW** Education. Head Start. Mexico. Puerto Rico. Children.

AB Poor educational attainment is a persistent problem among Latino children, relative to non-Latinos. This paper examines the effects of participation in the Head Start program on Latinos. The authors find that large and significant benefits accrue to Head Start children when compared to siblings who did not participate in the program. On average, Head Start closes at least one quarter of the gap in test scores between Latino children and non-Hispanic white children, and two thirds of the gap in the probability of grade repetition. Latinos are not a homogenous group, and the authors find that the benefits of Head Start are not evenly distributed across sub-groups. Relative to siblings who attend no preschool, the gains from Head Start are greatest among children of Mexican-origin and children of native-born mothers. In contrast, Latino children of foreign-born mothers and Puerto Rican children appear to reap little relative benefit from Head Start.

Cutler, David M.

PD September 1996. **TI** Are Medical Prices Declining? **AU** Cutler, David M.; McClellan, Mark; Newhouse, Joseph; Remler, Dahlia. **AA** Culter: Harvard University and National Bureau of Economic Research. McClellan: Stanford University and National Bureau of Economic Research. Newhouse: Harvard University. Remler: Tulane University. **SR** National Bureau of Economic Research Working Paper: 5750; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. Website: www.nber.org. **PG** 37. **PR** $5.00. **JE** I11, I12. **KW** Health Care. Medical Prices. Heart Attacks.

AB We address long-standing problems in measuring health care prices by estimating two medical care price indices. The first, a Service Price Index, prices specific medical services, as does the current CPI. The second, a Cost of Living Index, measures the net valuation of treating a health problem. We apply these indices to heart attack treatment between 1983 and 1994. Because of technological change and increasing price discounts, the current CPI overstates a chain-weighted price index by three percentage points annually. For plausible values of an additional life-year, the real Cost of Living Index fell about 1 percent annually.

PD September 1996. **TI** The Determinants of Technological Change in Heart Attack Treatment. **AU** Cutler, David M.; McClellan, Mark. **AA** Cutler: Harvard University and National Bureau of Economic Research. McClellan: Stanford University and National Bureau of Economic Research. **SR** National Bureau of Economic Research Working Paper: 5751; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. Website: www.nber.org. **PG** 30. **PR** $5.00. **JE** I11, I12, O31. **KW** Heart Attacks. Health Care. Technological Change.

AB This paper examines the sources of expenditure growth in heart attack treatment. We first show that essentially all of cost growth is a result of the diffusion of particular intensive technologies; the prices paid for a given level of technology have been constant or falling over time. We then examine the reasons for this technology diffusion. We distinguish six factors that may influence technology diffusion: organizational factors within hospitals; the insurance environment in which technology is reimbursed; public policy regulating new technology; malpractice concerns; competitive or cooperative interactions among providers; and demographic composition. We conclude that insurance variables, technology regulation, and provider interactions have the largest quantitative effect of technological diffusion. These factors affect both technology acquisition and the frequency of technology use.

PD October 1996. **TI** Paying for Health Insurance: The Tradeoff Between Competition and Adverse Selection. **AU** Cutler, David M.; Reber, Sarah. **AA** Cutler: Harvard University and National Bureau of Economic Research. Reber: Council of Economic Advisers. **SR** National Bureau of Economic Research Working Paper: 5796; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. Website: www.nber.org. **PG** 27. **PR** $5.00. **JE** D81, D82, G22, I11. **KW** Health Insurance. Adverse Selection. Harvard.

AB This paper uses data on health insurance choices by employees of Harvard University to examine the effect of alternative pricing rules on market equilibrium. In the mid 1990's, Harvard moved from a system of subsidizing more expensive insurance to a system of contributing an equal amount to each plan. The authors estimate a substantial demand response to the policy change, with a short-run elasticity of about -2. The reform also induced substantial adverse selection. Because of this selection, the long-run demand response is three times the short-run response. Price variation induced by adverse selection is inefficient; the authors estimate the magnitude of the welfare loss at 2 percent of baseline health spending. Finally, as insurance choice was made more competitive, premiums to Harvard fell relative to premiums in the Boston area by nearly 10 percent. This savings was large enough to compensate for the inefficiency induced by adverse selection.

Cyrus, Teresa

TI Trade and Growth in East Asian Countries: Cause and Effect? **AU** Frankel, Jeffrey A.; Romer, David H.; Cyrus, Teresa.

Dagan, Nir

PD January 1997. **TI** Invariance and Randomness in the Nash Program for Coalition Games. **AU** Dagan, Nir; Serrano, Roberto. **AA** Dagan: Universitat Pompeu Fabra. Serrano: Brown University. **SR** Brown University, Department of Economics Working Paper: 97/02; Department of Economics, Brown University, Providence, RI 02912. **PG** 10. **PR** no charge. **JE** C70. **KW** Coalitional Games. Social Choice. Nash Program. Scale Invariance. Ordinal Invariance. Randomness.

AB By introducing physical outcomes in coalitional games we note that coalitional games and social choice problems are equivalent (implying that so are the theory of implementation and the Nash Program). This facilitates the understanding of the role of invariance and randomness in the Nash program. Also, the extent to which mechanisms in the Nash program perform "real implementation" is explained.

PD April 1997. **TI** Remarks on McLennan and Sonnenschein "Sequential Bargaining as a Non- Cooperative Foundation for Walrasian Equilibrium." **AU** Dagan, Nir; Serrano, Roberto; Volij, Oscar. **AA** Dagan: Barcelona. Serrano and Volij: Brown University. **SR** Brown University, Department of Economics Working Paper: 97/10; Department of Economics, Brown University, Providence, RI 02912. **PG** 4. **PR** no charge. **JE** C78, D41, D51. **KW** Matching. Bargaining. Short Sales. Anonymity. Concavity.

AB We make some remarks on the paper above, which was published in Econometrica in 1991.

Darby, Michael R.

PD October 1996. **TI** Star Scientists, Institutions, and the Entry of Japanese Biotechnology Enterprises. **AU** Darby, Michael R.; Zucker, Lynne G. **AA** University of California, Los Angeles and National Bureau of Economic Research. **SR** National Bureau of Economic Research Working Paper: 5795; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. Website: www.nber.org. **PG** 37. **PR** $5.00. **JE** L11, L60, O32, O33. **KW** Japan. Biotechnology. Industrial Organization.

AB Advance of science and its commercial applications are in a close, symbiotic relationship in the U.S. biotechnology industry. Comparing Japan and the U.S., the structure of the science appears broadly similar, but the organization of the biotechnology industry is quite dissimilar. In the U.S., some 77 percent of new biotechnology enterprises (NBE's) were dedicated new biotechnology firms (NBF's) started for this purpose while 88 percent of Japanese biotech firms were subunits of existing firms (NBS's). The authors report pooled poisson regression estimates of the relation of NBE births in Japan to top- producing "star" scientists and other variables. While a similar process is at work in Japan and America, stars in Japan induce entry of significantly fewer NBE's than in the U.S. and preexisting economic activity plays a greater role. The authors find no such significant difference for entry of keiretsu-member and nonmember firms with Japan.

Dasgupta, Partha

PD July 1997. **TI** The Economics of Food. **AA** University of Cambridge, Beijer International Institute of Ecological Economics, Stockholm. **SR** STICERD, London School of Economics Discussion Papers Series: DERP/4; STICERD, Room R.415, London School of Economics and Political Science, Houghton Street, London WC2A 2AE, UK. **PG** 20. **PR** no charge. **JE** I10, I30, J20, O10, Q20. **KW** Environmental Resources. Future Population. Undernourishent. Poverty Traps. Hunger.

AB In this article the author argues that the interface connecting the problems of population growth, poverty, environmental degradation, food insecurity, and civic disconnection should ideally be studied with reference to a myriad of communitarian, household, and individual decisions. The author further argues that the all-or-nothing position often adopted in current writings is almost certainly misleading: both theory and evidence suggest that, just as today, large bodies of the world's population in 2020 will go hungry, even as large numbers continue to enjoy affluence; that women, children, and the old will continue to be the most vulnerable people; that the stress on ecosystems will be even greater than it is today, and that this may well create further stresses on civic connection. I will also argue that a prime target for national and international policy reforms should be the institutions within which individuals, households, firms, and communities go about their business.

PD July 1997. **TI** Population, Consumption and Resources: Ethical Issues. **AA** University of Cambridge and Beijer International Institute of Ecological Economics, Stockholm. **SR** STICERD, London School of Economics Discussion Papers Series: DERP/5; STICERD, Room R.415, London School of Economics and Political Science, Houghton Street, London WC2A 2AE, UK. **PG** 24. **PR** no charge. **JE** D10, D60, D90, E21, Q20. **KW** Potential People. Actual People. Utilitarianism. Generation Relative Ethics.

AB This article is about the concept of optimum population and consumption. Even though it is primarily concerned with foundational issues, the various ideas that have been discussed in the literature are tested in the context of economic models with limited resources. It is argued that, broadly speaking, existing theories of optimum population and consumption are variants of average and, what is often termed classical, utilitarianism, because of their reliance on a defective concept of personhood. It is also argued that contractual theories are of little use, because potential people (as opposed to future people) cannot be parties to any contract. A generation-relative ethics is developed and is put to work in an overlapping generations model. It is shown that generation-relative ethics, even when it is a variant of classical utilitarianism, can prescribe considerably lower population than classical utilitarianism.

PD January 1998. TI The Economics of Poverty in Poor Countries. AA University of Cambridge and Beijer International Institute of Ecological Economics, Stockholm. SR STICERD, London School of Economics Discussion Papers Series: DERP/9; STICERD, Room R.415, London School of Economics and Political Science, Houghton Street, London WC2A 2AE, UK. PG 34. PR no charge. JE I32, O10, Q10, Q20. KW Poverty Traps. Positive Feedback. Undernourishment. Local Democracy. Civil Liberties.

AB This article examines the links that have recently been studied between poverty, high fertility and undernourishment, on the one hand and degradation of the local environmental-resource base and civic disconnection on the other, in poor countries. An account is offered of a number of pathways involving positive feed-backs that create poverty traps, into which certain identifiable groups of people in an economy can get caught even when the economy in the aggregate experiences economic growth. The relevant policy implications are noted.

Davis, Donald R.

PD June 1996. TI The Heckscher-Ohlin-Vanek Model of Trade: Why Does It Fail? When Does It Work? AU Davis, Donald R.; Bradford, Scott; Weinstein, David E.; Shimpo, Kazushige. AA Davis: Harvard University and National Bureau of Economic Research. Weinstein and Bradford: Harvard University. Shimpo: Keio University. SR National Bureau of Economic Research Working Paper: 5625; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. Website: www.nber.org. PG 34. PR $5.00. JE E21, E23, F14, F21. KW Factor Service Trade. Japan. International Trade. Missing Trade. Factor Location.

AB The Heckscher-Ohlin-Vanek model of factor service trade is a central construct in international economics. Empirically, though, it is a flop. This warrants a new approach. Using Japanese regional data we are able to test the HOV model by independently examining its component production and consumption elements. The strict HOV model performs poorly because it cannot explain the international location of production. However, relaxing the assumption of universal factor price equalization yields a dramatic improvement. We also solve most of what Trefler (1995) calls the "mystery of the missing trade." In sum, the HOV model performs remarkably well.

PD June 1996. TI Technology, Unemployment, and Relative Wages in a Global Economy. AA Harvard University and National Bureau of Economic Research. SR National Bureau of Economic Research Working Paper: 5636; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. Website: www.nber.org. PG 24. PR $5.00. JE E24, J11, J31, J64, O33. KW Technological Change. Unemployment. Wages. Labor Market. Global Economy.

AB Arguably the most important development in recent decades in U.S. factor markets is the decline in the relative wage of the unskilled. By contrast, in Europe it is undoubtedly the rise and persistence of unemployment. Technology has been identified as a key reason for the rising U.S. wage inequality, while labor market rigidities are often cited as a key reason for European unemployment. This paper seeks to provide a unified account of these major factor market developments. It models the impact of technical change on relative wages and unemployment in a world in which one country has flexible and the other rigid labor market institutions. The results depart significantly but sensibly from what one would expect in a fully flexible wage world. A few stylized facts help to narrow the field to a few candidates to account for these factor market developments.

PD August 1996. TI Trade Liberalization and Income Distribution. AA Harvard University and National Bureau of Economic Research. SR National Bureau of Economic Research Working Paper: 5693; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. Website: www.nber.org. PG 13. PR $5.00. JE D31, F13, F22, O15, O19. KW Income Distribution. International Trade. Abundant Factor. Wages. Development.

AB Empirical work relating trade liberalization and income distribution has identified an important anomaly. The Stopler-Samuelson theorem predicts that trade liberalization will shift income toward a country's abundant factor. For developing countries, this suggests liberalization will principally benefit the abundant unskilled labor. Yet extensive empirical studies have identified many cases with a contrary result. This paper develops a simple theoretical explanation for this anomaly. It shows that countries which are labor abundant in a global sense may see wages decline with liberalization if they are capital abundant in a local sense. The current absence of empirical work that would allow us to identify the relevant local abundance implies that virtually all assertions regarding anticipated distributional consequences of trade liberalization are without foundation. There may likewise be important implications for industrialized countries that border developing countries undertaking trade liberalization, particularly in regard to the incentives for migration.

PD August 1996. TI Does Economic Geography Matter for International Specialization? AU Davis, Donald R.; Weinstein, David E. AA Davis: Harvard University and National Bureau of Economic Research. Weinstein: Harvard University. SR National Bureau of Economic Research Working Paper: 5706; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. Website: www.nber.org. PG 44. PR $5.00. JE F12, F43. KW International Trade. Increasing Returns. Comparative Advantage. Production Structure.

AB There are two principal theories of why countries trade: comparative advantage and increasing returns to scale. Yet there is no empirical work that assesses the relative importance of these two theories in accounting for production structure and trade. We use a framework that nests an increasing returns model of economic geography featuring "home market" effects with that of Heckscher-Ohlin-Vanek. We employ these trade models to account for the structure of OECD manufacturing production. The data militate against the economic geography framework. Moreover, even in the specification most generous to economic geography, endowments account for 90 percent of the explainable variance, economic geography but 10 percent.

Davis, Steven

PD September 1996. TI Driving Forces and Employment Fluctuations. AU Davis, Steven; Haltiwanger, John. AA Davis: University of Chicago and National Bureau of Economic Research. Haltiwanger: University of Maryland and National Bureau of Economic Research. SR National

Bureau of Economic Research Working Paper: 5775; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. Website: www.nber.org. **PG** 38. **PR** $5.00. **JE** E24, E32, J23, J63. **KW** Employment. Unemployment.

AB The authors rely on a decomposition of employment changes into job creation and job destruction components to develop new evidence about the driving forces behind aggregate fluctuations and their operating channels. The authors analysis delivers several inferences: 1) The data favor a many-shock characterization of fluctuations in employment and job reallocation. 2) Theories of employment fluctuations that attribute a predominant role to aggregate shocks must,to fit the data, involve contemporaneous effects of such shocks on job destruction that are at least as large as the effects of job creation. 3) Theories in which aggregate shocks primarily affect the first moment of the cross-sectional density of employment growth imply that allocative shocks have bigger contemporaneous effects on destruction than on creation, and, hence, that allocative shocks reduce aggregate employment. 4) Allocative shocks drive most fluctuations in the intensity of job reallocation. Also considered are oil shocks and monetary shocks.

Dawar, Niraj

PD March 1997. **TI** Impact of Product-Harm Crises on Brand Equity: Threat or Opportunity? **AU** Dawar, Niraj; Pillutla, Madan M. **AA** Dawar: INSEAD. Pillutla: Hong Kong University. **SR** INSEAD Working Papers: 97/40/MKT; INSEAD, Research and Development Department, Boulevard de Constance, 77305 Fontainebleau, France. Website: www.insead.fr/Research. **PG** 36. **PR** no charge up to five copies, after five copies 18FF per working paper plus postage and VAT. **JE** D24, E23, L14, M14. **KW** Brand Equity. Reputation. Product Harm.

AB Brand equity is an invaluable asset for most firms. Yet this asset is particularly vulnerable during product-harm crises which are publicized instances of defective or dangerous products. Increased recognition of the value of brand equity and the mounting frequency of product-harm crises raise important questions about the impact on brand equity of product-harm crises. A firm's response to a product-harm crisis is an important determinant of the crisis' impact on brand equity. However, the authors suggest that the impact of a response may be moderated by the firm's reputation. They hypothesize that firms with a customer- friendly reputation benefit from a favorable interpretation of their response and consequently a positive impact on brand equity in a product-harm crisis. Firms with no prior reputation do no benefit from a positive interpretation. The difference in impact on brand equity for the two types of reputation is largest when firm response is ambiguous.

Debelle, Guy

PD June 1996. **TI** Relative Price Variability and Inflation: Evidence from US Cities. **AU** Debelle, Guy; Lamont, Owen. **AA** Debelle: International Monetary Fund. Lamont: University of Chicago and National Bureau of Economic Research. **SR** National Bureau of Economic Research Working Paper: 5627; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. Website: www.nber.org. **PG** 20. **PR** $5.00. **JE** E31, E50. **KW** Inflation. Relative Prices. Price Variability.

AB We test whether the time-series positive correlation of inflation and intermarket relative price variability is also present in a cross- section of U.S. cities. We find this correlation to be a robust empirical regularity: cities which have higher than average inflation also have higher than average relative price dispersion, ceteris paribus. This result holds for different periods of time, different classes of goods, and across different time horizons. Our results suggest that at least part of the relationship between inflation and relative price variability cannot be explained by monetary factors.

DeFina, Robert

TI The Differential Regional Effects of Monetary Policy: Evidence from the US States. **AU** Carlino, Gerald; DeFina, Robert.

Dekimpe, Marnik G.

PD April 1997. **TI** Global Diffusion of Network Technologies: A Double-Hazard Approach. **AU** Dekimpe, Marnik G.; Parker, Philip M.; Sarvary, Miklos. **AA** Dekimpe: Catholic University Leuven. Parker: INSEAD. Sarvary: Stanford University. **SR** INSEAD Working Papers: 97/50/MKT; INSEAD, Research and Development Department, Boulevard de Constance, 77305 Fontainebleau, France. Website: www.insead.fr/Research. **PG** 37. **PR** no charge up to five copies, after five copies 18FF per working paper plus postage and VAT. **JE** F02, L96, O14, O33. **KW** Network Innovations. Telecommunications. Global Diffusion. Double Hazard. Technology.

AB This paper proposes a "double hazard" approach to explain the global diffusion of network innovations. Network products are those which interconnect large yet dispersed populations. New network technologies may complement or substitute existing ones which themselves have already undergone, or are currently undergoing, international adoption. The authors first model the timing when a country tries or "pilot tests" the network technology, called "the implementation stage" by Rogers (1983). They then model the timing of when the innovation is implemented on a national or ubiquitous basis within the country (referred to by Rogers as the confirmation stage), and assess the interrelationship between both processes. In order to test relevant research hypotheses concerning the international diffusion process of these types of products, the authors apply the proposed approach to the diffusion of digital telecommunications networks across 160 countries.

Dekker, Rommert

TI Quantitative Models for Reverse Logistics: A Review. **AU** Fleischmann, Moritz; Bloemhof-Ruwaard, Jacqueline; Dekker, Rommert; Van Der Laan, Erwin; Van Nunen, Jo; Van Wassenhove, Luk N.

TI Quantitative Models for Reverse Logistics: A Review. **AU** Fleischmann, Moritz; Bloemhof-Ruwaard, Jacqueline; Dekker, Rommert; Van Der Laan, Erwin; Van Nunen, Jo; Van Wassenhove, Luk N.

den Haan, Wouter J.

PD October 1996. **TI** Understanding Equilibrium Models with a Small and a Large Number of Agents. **AA** University of California, San Diego and National Bureau of Economic Research. **SR** National Bureau of Economic Research Working Paper: 5792; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. Website: www.nber.org. **PG** 43. **PR** $5.00. **JE** D50, D91, E43, G12. **KW** Buffer Stock. Consumption Smoothing. Asset Pricing. Equilibrium Models.

AB This paper compares a two-agent asset pricing model with the corresponding model with a continuum of agents. In a two-agent economy, interest rates respond to "idiosyncratic" income shocks because each agent represents half of the population. These interest rate effects facilitate consumption smoothing. An agent in a two-agent economy, however, can never lend more than the other agent is allowed to borrow. For most parameter values, the first effect is more important. In contrast to these differences, the author finds that for most parameter values there are no large differences in average interest rates across the two types of economies. The author also analyzes the business cycle behavior of interest rates in an incomplete markets economy with a continuum of agents. The dynamic response of interest rates to aggregate shocks is a lot more complicated and in magnitude bigger than in a complete market.

Desai, Mihir

PD September 1996. **TI** "Basket" Cases: International Joint Ventures After the Tax Reform Act of 1986. **AU** Desai, Mihir; Hines, James Jr.. **AA** Desai: Harvard University. Hines: Harvard University and National Bureau of Economic Research. **SR** National Bureau of Economic Research Working Paper: 5755; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. Website: www.nber.org. **PG** 23. **PR** $5.00. **JE** F23, H25. **KW** Joint Ventures. Taxation. International Business.

AB This paper examines the impact of the Tax Reform Act of 1986 (TRA) on international joint ventures by American firms. The evidence suggests that the TRA had a significant effect on the organizational form of U.S. business activity abroad. The TRA mandates the use of separate "baskets" in calculating foreign tax credits on income received from foreign corporations owned 50 percent or less by Americans. This limitation on worldwide averaging greatly reduces the attractiveness of joint ventures to American investors, particularly ventures in low-tax foreign countries. Aggregate data indicate that U.S. participation in international joint ventures fell sharply after 1986. The decline in U.S. joint venture activity is most pronounced in low-tax countries, which is consistent with the incentives created by the TRA. Moreover, joint ventures in low-tax countries use more debt and pay greater royalties to their U.S. parents after 1986, which reflects their incentives to economize on dividend payments.

Devashish, Mitra

TI The Effect of Trade Policy Reforms on Labor Markets: Evidence from India. **AU** Kambhampati, Uma; Krishna, Pravin; Devashish, Mitra.

DeYoung, Robert

TI Problem Loans and Cost Efficiency in Commercial Banks. **AU** Berger, Allen N.; DeYoung, Robert.

Diba, Behzad

TI Relative Labor Productivity and the Real Exchange Rate in the Long Run: Evidence for a Panel of OECD Countries. **AU** Canzoneri, Matthew; Cumby, Robert; Diba, Behzad.

Diebold, Francis X.

TI Optimal Prediction Under Asymmetric Loss. **AU** Christoffersen, Peter F.; Diebold, Francis X.

PD March 1997. **TI** Dynamic Equilibrium Economies: A Framework for Comparing Models and Data. **AU** Diebold, Francis X.; Ohanian, Lee E.; Berkowitz, Jeremy. **AA** Diebold: University of Pennsylvania and Federal Reserve Bank of Philadelphia. Ohanian: University of Minnesota and University of Pennsylvania. Berkowitz: Federal Reserve Board. **SR** Federal Reserve Bank of Philadelphia Research Working Paper: 97/07; Working Papers, Department of Research, Federal Reserve Bank of Philadelphia, 101 Independence Mall, Philadelphia, PA 19106. Website: www.phil.frb.org/econ/index.html. **PG** 76. **PR** no charge except overseas airmail, $3.00; checks/money orders in U.S. funds payable to Federal Reserve Bank of Philadelphia. **JE** C52. **KW** Comparing Models. Dynamic Equilibrium. Bootstrap Algorithms.

AB We propose a constructive, multivariate framework for assessing agreement between (generally misspecified) dynamic equilibrium models and data, which enables a complete second-order comparison of the dynamic properties of models and data. We use bootstrap algorithms to evaluate the significance of deviations between models and data, and we use goodness-of-fit criteria to produce estimators that optimize economically relevant loss functions. We provide a detailed illustrative application to modeling the U.S. cattle cycle.

PD May 1997. **TI** Evaluating Density Forecasts. **AU** Diebold, Francis X.; Gunther, Todd A.; Tay, Anthony S. **AA** Diebold: University of Pennsylvania and Federal Reserve Bank of Philadelphia. Gunther: University of Pennsylvania. Tay: University of Pennsylvania and National University of Singapore. **SR** Federal Reserve Bank of Philadelphia Research Working Paper: 97/06; Working Papers, Department of Research, Federal Reserve Bank of Philadelphia, 101 Independence Mall, Philadelphia, PA 19106. Website: www.phil.frb.org/econ/index.html. **PG** 42. **PR** no charge except overseas airmail, $3.00; checks/money orders in U.S. funds payable to Federal Reserve Bank of Philadelphia. **JE** C52, C53. **KW** Density Forecasts. Forecast Evaluation.

AB We propose methods for evaluating and improving density forecasts. We focus primarily on methods that are applicable regardless of the particular user's function, though we take explicit account of the relationships between density forecasts, action choices, and the corresponding expected loss throughout. We illustrate the methods with a detailed series of examples, and we discuss extensions to improving and combining suboptimal density forecasts, multistep-ahead density forecast evaluation, multivariate density forecast evaluation, monitoring for structural change and its relationship to density forecasting, and density forecast evaluation with known loss function.

TI Cointegration and Long-Horizon Forecasting. **AU** Christofferson, Peter F.; Diebold, Francis X.

TI Bounded Rationality and Strategic Complementarity in a Macroeconomic Model: Policy Effects, Persistence, and Multipliers. **AU** Bomfim, Antulio N.; Diebold, Francis X.

PD October 1997. **TI** The Past, Present, and Future of Macroeconomic Forecasting. **AA** University of Pennsylvania, National Bureau of Economic Research and Federal Reserve Bank of Philidelphia. **SR** Federal Reserve

Bank of Philadelphia Research Working Paper: 97/20; Working Papers, Department of Research, Federal Reserve Bank of Philadelphia, 101 Independence Mall, Philadelphia, PA 19106. Website: www.phil.frb.org/econ/index.html. **PG** 47. **PR** no charge except overseas airmail, $3.00; checks/money orders in U.S. funds payable to Federal Reserve Bank of Philadelphia. **JE** C53, E17. **KW** Macroeconomic Forecasting.

AB Broadly defined, macroeconomic forecasting is alive and well. Nonstructural forecasting, which is based largely on reduced-form correlations, has always been well and continues to improve. Structural forecasting, which aligns itself with economic theory and, hence, rises and falls with theory, receded following the decline of Keynesian theory. In recent years, however, powerful new dynamic stochastic general equilibrium theory has been developed, and structural macroeconomic forecasting is poised for resurgence.

PD November 1997. **TI** Measuring Predictability: Theory and Macroeconomic Applications. **AU** Diebold, Francis X.; Kilian, Lutz. **AA** Diebold: University of Pennsylvania and Federal Reserve Bank of Philidelphia. Kilian: University of Michigan. **SR** Federal Reserve Bank of Philadelphia Research Working Paper: 97/23; Working Papers, Department of Research, Federal Reserve Bank of Philadelphia, 101 Independence Mall, Philadelphia, PA 19106. Website: www.phil.frb.org/econ/index.html. **PG** 63. **PR** no charge except overseas airmail, $3.00; checks/money orders in U.S. funds payable to Federal Reserve Bank of Philadelphia. **JE** C53. **KW** Measuring Predictability. Expected Loss.

AB We propose a measure of predictability based on the ratio of the expected loss of a short-run forecast to the expected loss of a long-run forecast. This predictability measure can be tailored to the forecast horizons of interest, and it allows for general loss functions, univariate or multivariate information sets, and stationary or nonstationary data. We propose a simple estimator, and we suggest resampling methods for inference. We then provide several macroeconomic applications. First, based on fitted parametric models, we assess the predictability of a variety of macroeconomic series. Second, we analyze the internal propagation mechanism of a standard dynamic macroeconomic model by comparing predictability of model inputs and model outputs. Third, we use predictability as a metric for assessing the similarity of data simulated from the model and actual data. Finally, we sketch several promising directions for future research.

Diewert, W. Erwin

PD January 1998. **TI** The Deadweight Costs of Capital Taxation In Australia. **AU** Diewert, W. Erwin; Lawrence, Denis A. **AA** Diewert: University of British Columbia. Lawrence: Tasman Asia Pacific. **SR** University of British Columbia, Department of Economics, Discussion Paper: 98/01; Department of Economics, University of British Columbia, #997-1873 East Mall, Vancouver, BC V6T 1Z1. Website: web.arts.ubc.ca/econ. **PG** 30. **PR** **JE** D92, H20. **KW** Deadweight Costs. Marginal Excess Burden. Capital Taxation. Profit Function.

AB Taxes distort the incentives to work, save and invest and the pattern of input use and production in the economy. The excess burden or deadweight cost of taxation is a measure of the efficiency costs of taxation -- the value of the opportunities that are effectively lost when taxation diverts labor, land and capital from their best uses. The excess burden of taxing capital is likely to be particularly high given capital's increasing international mobility. However, the important issue of capital taxation has been virtually ignored in Australia's current public discussion of tax reform. In this paper we report the results of calculating dynamic deadweight losses for capital taxes in Australia based on an econometric model of the production sector. Changes to the Australian tax system since the mid-1980's have fallen relatively heavily on capital and we find that the excess burden of capital taxation has increased markedly in recent years.

PD January 1998. **TI** Can Measurement Error Explain the Productivity Paradox? **AU** Diewert, W. Erwin; Fox, Kevin J. **AA** Diewert: University of British Columbia. Fox: University of New South Wales. **SR** University British Columbia, Department of Economics, Discussion Paper: 98/04; Department of Economics, University of British Columbia, #997-1873 East Mall, Vancouver, BC V6T 1Z1. Website: web.arts.ubc.ca/econ. **PG** 38. **PR** **JE** D24, D40, D92, E62, H21, O47. **KW** Measurement Error. Productivity Paradox. Inflation Accounting. Deadweight Loss. User Costs.

AB While it is widely acknowledged that enormous productivity gains have been achieved through the use of modern technology such as computers, measured productivity growth has been lower in industrialized countries in the last 25 years compared to the previous 50 years. Many authors have argued that measurement error cannot possibly explain this productivity paradox. We give several reasons why it can, including an explanation for the rapid productivity slowdown in the early 1970's, and the lack of a subsequent recovery of measured productivity growth.

PD February 1998. **TI** The Measurement of Inflation After Tax Reform. **AU** Diewert, W. Erwin; Fox, Kevin J. **AA** Diewert: University of British Columbia. Fox: University of New South Wales. **SR** University of British Columbia, Department of Economics, Discussion Paper: 98/05; Department of Economics, University of British Columbia, #997-1873 East Mall, Vancouver, BC V6T 1Z1. Website: web.arts.ubc.ca/econ. **PG** 9. **PR** **JE** C43, H20. **KW** Tax Reform. Inflation Measurement.

AB It is suggested that instead of attempting to adjust the consumer price index (CPI) after tax reform it is better to measure changes in after-tax income.

Dominitz, Jeff

PD July 1996. **TI** Perceptions of Economic Insecurity: Evidence From the Survey of Economic Expectations. **AU** Dominitz, Jeff; Manski, Charles F. **AA** Dominitz: University of Michigan. Manski: University of Wisconsin and National Bureau of Economic Research. **SR** National Bureau of Economic Research Working Paper: 5690; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. Website: www.nber.org. **PG** 25. **PR** $5.00. **JE** D81, D84, J10. **KW** Survey. Risk. Employment. Expectations.

AB The authors have recently initiated the Survey of Economic Expectations (SEE) in an effort to learn how Americans perceive their near-term futures. This paper uses SEE data on over two thousand labor force participants interviewed in 1994 and 1995 to describe how Americans in the labor force perceive the risk of near-term economic misfortune. The authors measure economic insecurity through responses to questions eliciting subjective probabilities of three events in the year ahead: absence of health insurance, victimization by burglary, and job loss. Using the responses to classify individuals as relatively secure, relatively insecure, and highly insecure, the authors find that respondents with a high risk of one adverse outcome also tend to perceive high risks of the other outcomes. Economic insecurity tends to decline with age and with schooling. The authors find that expectations and realizations of health insurance coverage and of jobs tend to match up quite closely.

Donaldson, David

TI Social Aggregation and the Expected Utility Hypothesis. **AU** Blackorby, Charles; Donaldson, David; Weymark, John A.

TI Critical-Level Utilitarianism and the Population-Ethics Dilemma. **AU** Blackorby, Charles; Bossert, Walter; Donaldson, David.

TI Critical Levels And The (Reverse) Repugnant Conclusion. **AU** Blackorby, Charles; Bossert, Walter; Donaldson, David; Fleurbaey, Marc.

PD May 1997. **TI** A Quasiordering is the Intersection of Orderings. **AU** Donaldson, David; Weymark, John A. **AA** University of British Columbia. **SR** University of British Columbia, Department of Economics, Discussion Paper: 97/12; Department of Economics, University of British Columbia, #997-1873 East Mall, Vancouver, BC V6T 1Z1. Website: web.arts.ubc.ca/econ. **PG** 7. **PR** **JE** C60, D60, D71. **KW** Binary Relation. Quasiordering. Ordering. Pareto.
AB We show that any quasiordering is the intersection of orderings.

TI Rationalizable Solutions to Pure Population Problems. **AU** Blackorby, Charles; Bossert, Walter; Donaldson, David.

TI Price-Independent Welfare Prescriptions and Population Size. **AU** Blackorby, Charles; Bossert, Walter; Donaldson, David.

Douvogiannis, Martha

TI Earnings Forecasts and the Predictability of Stock Returns: Evidence from Trading the S&P. **AU** Lander, Joel; Orphanides, Athanasios; Douvogiannis, Martha.

Dow, William H.

PD september 1995. **TI** Unconditional Demand for Curative Health Inputs: Does Selection on Health Status Matter in the Long Run? **AA** Yale University. **SR** Yale Economic Growth Center Discussion Paper: 740; Economic Growth Center, Publications Office, Yale University, P.O. Box 208269, New Haven, CT 06520-2869. Website: www.library.yale.edu/socsci/egcpage.html. **PG** 49. **PR** $2.00 plus postage. **JE** D81, I11, I12, I18, I31. **KW** Health Inputs. Health Status. Cote D'Ivoire. Health Care. Welfare Analyses.
AB Healthy people are routinely ignored when analyzing curative health inputs. This practice overlooks people's long-term ability to affect their chances of falling sick, and may have perverse effects on welfare analyses. A dynamic model implies that input demand estimates conditioned on current illness can only be interpreted as short run effects, in contrast to the long-run nature of unconditional estimates. In addition, conditional estimates may be biased from both sample- selection, and self-reporting of health status. By jointly modeling discrete choices for health inputs and health outcomes, a test for selection bias is derived using the multinational probit. In data from Cote d'Ivoire, it is found that the usual short-run demand estimates do not suffer from selection bias. However, these conditional estimates differ from the easily estimated long-run unconditional effects, which are often the more relevant policy parameters.

TI Tetanus, Death and Aerobics: The Evaluation of Disease-Specific Public Health Interventions. **AU** Sala-i-Martin, Xavier; Dow, William H.; Holmes, Jessica; Philipson, Tomas.

PD September 1995. **TI** Discrete Choice Estimation of Price-Elasticities: The Benefits of a Flexible Behavioral Model of Health Care Demand. **AA** Yale University. **SR** Yale Economic Growth Center Discussion Paper: 739; Economic Growth Center, Publications Office, Yale University, P.O. Box 208269, New Haven, CT 06520-2869. Website: www.library.yale.edu/socsci/egcpage.html. **PG** 51. **PR** $2.00 plus postage. **JE** I11, I12, I18. **KW** Health Care. Discrete Choice. Behavioral Model. Cote D'Ivoire.
AB Previous literature on discrete health care demand estimation has used a wide range of different specifications, and results may be sensitive to model choice. This paper advocates a flexible behavioral model of discrete choice health care demand which nests previous models, enabling them to be structurally interpreted as well as tested against one another. Based on testing of data from Cote d'Ivoire, it is found that certain recognized restrictions on income variables appear to have little impact on results. However, the specification of the price variable can have large impacts on policy inferences. The flexible model ameliorates this sensitivity, and allows structural interpretation when the data rejects more restrictive models.

PD October 1995. **TI** Welfare Impacts of Health Care User Fees: A Health-Valuation Approach to Analysis with Imperfect Markets. **AA** Yale University. **SR** Yale Economic Growth Center Discussion Paper: 741; Economic Growth Center, Publications Office, Yale University, P.O. Box 208269, New Haven, CT 06520-2869. Website: www.library.yale.edu/socsci/egcpage.html. **PG** 36. **PR** $2.00 plus postage. **JE** D60, I11, I18, I31. **KW** User Fees. Bamako Initiative. Developing Countries. Welfare Analyses. Health Care.
AB Despite large investments in determining the demand effects of raising health care user fees in developing countries, there has been little welfare analysis of user fees. Conventional wisdom assumes that the more that user fees discourage demand, the worse is a user-fee policy. This paper shows that this conventional wisdom is contradicted by neoclassical analysis. It is then argued that empirically resolving these conflicting predictions using standard consumer surplus measurement is inadequate. An alternative "health-valuation" approach to social welfare measurement is proposed here instead. This involves a reorientation of analyses towards direct measurement of health outcome effects, which is argued to be the preferred research strategy.

Doyle, Maura P.

PD January 1997. **TI** Information Sharing and Competition in the Motor Vehicle Industry. **AU** Doyle, Maura P.; Snyder, Christopher M. **AA** Doyle: Board of Governors of the Federal Reserve System. Snyder: George

Washington University. **SR** Board of Governors of the Federal Reserve System, Finance and Economics Discussion Paper Series: 1997/04; Ms. Karen Blackwell, FEDS Secretary, Mail Stop 77, Federal Reserve Board, Washington, DC 20551. Website: www.bog.frb.fed.us/pubs/feds. **PG** 35. **PR** no charge. **JE** D82, L13, L62. **KW** Information Sharing. Motor Vehicle Production. Automobile Industry.

AB Up to six months ahead of actual production, U.S. automakers announce plans for their monthly domestic production of cars. A leading industry trade journal publishes the initial plan and then a series of revisions leading up to the month in question. We analyze a panel data set spanning the years 1965-1995, matching the production forecasts with data for actual monthly production. We show that a firm's plan announcement affects competitors' later revisions of their own plans and eventual production. The interaction appears to be complementary -- large plans or upward revisions cause competitors to revise plans upward and increase production. The results are consistent with models in which firms share information about common demand parameters.

Doz, Yves

PD May 1997. **TI** The Metanational Corporation. **AU** Doz, Yves; Asakawa, Kaz; Santos, Jose; Williamson, Peter. **AA** Doz and Williamson: INSEAD. Asakawa: Keio University. Santos: Catholic University at Porto and INSEAD. **SR** INSEAD Working Papers: 97/60/SM; INSEAD, Research and Development Department, Boulevard de Constance, 77305 Fontainebleau, France. Website: www.insead.fr/Research. **PG** 38. **PR** no charge up to five copies, after five copies 18FF per working paper plus postage and VAT. **JE** F23, L23, M11. **KW** Metanational Corporations. Strategic Advantages. Value Creation.

AB The metanational corporation creates advantage on a world-wide scale. It does not limit itself to the international exploitation of those strategic advantages that it created in a national or "home-country" setting. Building on the fact that the relevant knowledge base in many industries is increasingly dispersed and contextually embedded, the metanational creates value by accessing, melding, and leveraging distant capabilities and market knowledge. It uses effective sensing and capturing nodes in each defining market and critical capability cluster. It manages attractors that coalesce and integrate dispersed knowledge and capabilities, while keeping knowledge nodes effectively and efficiently connected. A framework is presented to assist in understanding the major challenges, and propositions are presented to deal with the implementation of a metanational strategy.

Drazen, Allan

TI Capital Account Liberalization as a Signal. **AU** Bartolini, Leonardo; Drazen, Allan.

TI When Liberal Policies Reflect External Shocks, What Do We Learn? **AU** Bartolini, Leonardo; Drazen, Allan.

Dreze, Jean

PD September 1997. **TI** Credit in Rural India: A Case Study. **AU** Dreze, Jean; Lanjouw, Peter; Sharma, Naresh. **AA** Dreze: Center for Development Economics. Lanjouw: World Bank. Sharma: Institute of Public Enterprises, Hyderabad. **SR** STICERD, London School of Economics Discussion Papers Series: DERP/6; STICERD, Room R.415, London School of Economics and Political Science, Houghton Street, London WC2A 2AE, UK. **PG** 77. **PR** no charge. **JE** D23, G20, O16, Q14. **KW** India. Credit.

AB This paper presents a case study of credit transactions in Palanpur, a north Indian village. Drawing on detailed information from all borrowers and lenders in the village, we examine a number of issues related to the functioning of rural credit markets. These include the segmentation of the credit market, the achievements and failures of public lending institutions, the role of interest-free lending, the lending strategies of village moneylenders, social inequalities in access to credit, and the politics of rural credit, among others. An attempt is also made to relate these findings to those of other studies of credit in rural India.

Duffee, Gregory R.

PD February 1997. **TI** Credit Derivatives in Banking: Useful Tools for Managing Risk? **AU** Duffee, Gregory R.; Zhou, Chunsheng. **AA** Board of Governors of the Federal Reserve System. **SR** Board of Governors of the Federal Reserve System, Finance and Economics Discussion Paper Series: 1997/13; Ms. Karen Blackwell, FEDS Secretary, Mail Stop 77, Federal Reserve Board, Washington, DC 20551. Website: www.bog.frb.fed.us/pubs/feds. **PG** 30. **PR** no charge. **JE** D82, G21. **KW** Credit Derivatives. Bank Loans. Loan Sales. Asymmetric Information. Banking.

AB We model the effects on banks of the introduction of a market for credit derivatives, in particular, credit default swaps. A bank can use such swaps to temporarily transfer credit risks of their loans to others, reducing the likelihood that defaulting loans trigger the bank's financial distress. Because credit derivatives are more flexible at transferring risks than are other, more established tools such as loan sales without recourse, these instruments make it easier for banks to circumvent the "lemons" problem caused by banks' superior information about the credit quality of their loans. However, we find that the introduction of a credit derivatives market is not necessarily desirable because it can cause other markets for loan risk-sharing to break down. If so, the existence of a credit derivatives market will lead to a greater risk of bank insolvency.

Dunn, Thomas

PD June 1996. **TI** Financial Capital, Human Capital, and the Transition to Self- Employment: Evidence from Intergenerational Links. **AU** Dunn, Thomas; Holtz-Eakin, Douglas. **AA** Dunn: Syracuse University. Holtz-Eakin: Syracuse University and National Bureau of Economic Research. **SR** National Bureau of Economic Research Working Paper: 5622; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. Website: www.nber.org. **PG** 18. **PR** $5.00. **JE** D91, E22, J23, J24. **KW** Self Employment. Financial Capital. Human Capital. Intergenerational Links.

AB The environment for business creation is central to economic policy, as entrepreneurs are believed to be forces of innovation, employment and economic dynamism. We use data from the National Longitudinal Surveys (NLS) to investigate the relative importance of financial and human capital exploiting the variation provided by intergenerational links. Specifically, we estimate the impacts of parental wealth and human capital on the probability that an individual will make the transition from a wage and salary job to self-employment. We find that young men's own financial assets exert a statistically significant, but quantitatively modest effect on the transition to self-employment. In contrast, the capital of parents exerts a large influence. Parents' strongest effect runs not through financial means, but rather through human capital, i.e., the intergenerational correlation in self- employment. This link is even stronger along gender lines.

Dunne, Timothy

PD July 1996. **TI** Technology and Jobs: Secular Changes and Cyclical Dynamics. **AU** Dunne, Timothy; Haltiwanger, John; Troske, Kenneth. **AA** Dunne: University of Oklahoma. Haltiwanger: University of Maryland and National Bureau of Economic Research. Troske: Bureau of the Census. **SR** National Bureau of Economic Research Working Paper: 5656; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. Website: www.nber.org. **PG** 43. **PR** $5.00. **JE** E24, J21, J31, L60, O30. **KW** Business Cycles. Employment Structure. Wage Structure. Technological Change.

AB In this paper, we exploit plant-level data for U.S. manufacturing for the 1970's and 1980's to explore the connections between changes in technology and the structure of employment and wages. We focus on the nonproduction labor share (measured alternatively by employment and wages) as the variable of interest. Our main findings are summarized as follows: (i) aggregate changes in the nonproduction of labor share at annual and longer frequencies are dominated by within plant changes; (ii) the distribution of annual within plant changes exhibits a spike at zero, tremendous heterogeneity and fat left and right tails; (iii) within plant secular changes are concentrated in recessions; and (iv) while observable indicators of changes in technology account for a significant fraction of the secular increase in the average nonproduction labor share, unobservable factors account for most of the secular increase, most of the cyclical variation and most of the cross sectional heterogeneity.

Dupont, Dominique Y.

PD March 1997. **TI** Extracting Information From Trading Volume. **AA** Board of Governors of the Federal Reserve System. **SR** Board of Governors of the Federal Reserve System, Finance and Economics Discussion Paper Series: 1997/20; Ms. Karen Blackwell, FEDS Secretary, Mail Stop 77, Federal Reserve Board, Washington, DC 20551. Website: www.bog.frb.fed.us/pubs/feds. **PG** 32. **PR** no charge. **JE** G10. **KW** Information. Trading Volume. Asset Value. Transaction Costs.

AB The paper shows how to infer from trading volume information about any random variable, assuming that the random variable and the traders' demands are symmetrically (and then normally) distributed around zero. The volume-based conditional expectation of such a random variable is zero, while the covariance between its absolute value and volume is positive if the variable is jointly normally distributed with the traders' demands. In that case, numerical examples indicate that the volume-based conditional probability of extreme asset value realizations (positive or negative) is increasing in volume. These results, developed in a market-clearing framework, apply also to market-making frameworks. Finally, the paper develops a simple model where transaction costs can generate a positive covariance between price and trading volume.

Dutta, Soumitra

PD March 1997. **TI** Management Practices for Software Excellence: An Empirical Investigation. **AU** Dutta, Soumitra; Van Wassenhove, Luk N. **AA** INSEAD. **SR** INSEAD Working Papers: 97/32/TM; INSEAD, Research and Development Department, Boulevard de Constance, 77305 Fontainebleau, France. Website: www.insead.fr/Research. **PG** 19. **PR** no charge up to five copies, after five copies 18FF per working paper plus postage and VAT. **JE** L23, L86, M11, M12, O32. **KW** Software. Business Management. Production Organization.

AB The notion of "Software Excellence", i.e., excellence in all aspects of the creation and application of software in the general organizational context, has been modeled in this paper after the European Quality Model. The logic of the model is that in any Software Producing Unit (SPU), leadership driving policy and strategy, SPU people management, end-user management, resource management and processes contributes towards software excellence, which in turn results in enhanced end-user satisfaction, SPU people satisfaction, a positive impact on the organization and effective business results for the organization. A survey using the software excellence model was conducted by the European Software Institute (ESI) in collaboration with INSEAD. This paper reports on the results of the survey with a specific focus on the competitive priorities and key management practices within organizations obtaining the highest scores of software excellence.

TI 1996 Software Best Practices Survey: Analysis of Results. **AU** Kulandaiswamy, Selvan; Dutta, Soumitra; Van Wassenhove, Luk N.

TI 1995 and 1996 Software Best Practices Surveys: A Comparative Analysis of Results. **AU** Patharc, Amit; Dutta, Soumitra; Van Wassenhove, Luk N.

PD May 1997. **TI** Transforming Business in the Marketspace: Strategic Marketing and Customer Relationships. **AU** Dutta, Soumitra; Kwan, Stephen; Segev, Arie. **AA** Dutta: INSEAD and University of California, Berkeley. Kwan: San Jose State University and University of California, Berkeley. Segev: University of California, Berkeley. **SR** INSEAD Working Papers: 97/53/TM; INSEAD, Research and Development Department, Boulevard de Constance, 77305 Fontainebleau, France. Website: www.insead.fr/Research. **PG** 19. **PR** no charge up to five copies, after five copies 18FF per working paper plus postage and VAT. **JE** M10, M21, M30, O33. **KW** Internet. World Wide Web. Business Models. Marketspace.

AB This paper presents an analysis of how the business models of organizations are getting transformed in the Marketspace created by the Internet and WWW. The authors use a model comprising the four P's: product, price, promotion and placement; and one C, customer relationship. They study how these four P's and one C are being transformed by the fundamental characteristics of real-time interactivity and global connectivity in the Marketspace. The authors' conclusions are drawn from the results of a recent survey of 167 organizations chosen from a number of sectors across the globe. They observe that few organizations are exploiting the unique business potential of the Marketspace. Most organizations are simply transporting limited aspects of their current business models to the Marketspace.

Ebert, Udo

PD November 1997. **TI** Linear Inequality Concepts and Social Welfare. **AA** University of Oldenburg. **SR** STICERD, London School of Economics Discussion Papers Series: DARP/33; STICERD, Room R.415, London School of Economics and Political Science, Houghton Street, London WC2A 2AE, UK. **PG** 33. **PR** no charge. **JE** D10, D63, I31. **KW** Social Welfare. Inequality. Income.

AB The paper presents an abstract definition of linear inequality concepts leading to linearly invariant inequality measures and characterizes the class of linear concepts completely. Two general methods of deriving ethical measures are proposed. They imply an Atkinson-Kolm-Sen index and a new dual index reflecting the inequality of living standard. Then all separable social welfare orderings which generate linearly invariant measures are characterized. The measures are presented and their general properties are discussed. Dual measures prove to be additively decomposable. Linear welfare orderings defined on rank-ordered income vectors are examined. They are consistent with all linear inequality and yield an inequality ordering for every concept.

Edey, Malcolm

PD October 1996. **TI** Australia's Retirement Income System: Implications for Saving and Capital Markets. **AU** Edey, Malcolm; Simon, John. **AA** Reserve Bank of Australia. **SR** National Bureau of Economic Research Working Paper: 5799; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. Website: www.nber.org. **PG** 35. **PR** $5.00. **JE** E21, G23, H55, J26. **KW** Australia. Superannuation. Public Pensions. Retirement.

AB Australia is in the early stages of introducing a system of self- provision for retirement through mandatory contributions to private superannuation funds. For most employees, the scheme will eventually replace, either fully or partially, the government age pension, currently relied upon by a large majority or retirees. The scheme has been implemented reasonably smoothly by building on existing financial infrastructure for voluntary superannuation. This paper summarizes the historical background of mandatory superannuation in Australia, reviews its potential impact on saving and capital markets, and highlights some remaining policy issues. Perhaps the most important of these is the impact of the system on retirement decisions. A number of features of the system contribute to incentives favoring early retirement and continued reliance on the government pension. Also important is the increasing complexity of the system, a result of layering of rule changes and grandfathering of existing rights at each stage of the process.

Edison, Hali J.

PD October 1996. **TI** The Reaction of Exchange Rates and Interest Rates to News Releases. **AA** Board of Governors of the Federal Reserve System. **SR** Board of Governors of the Federal Reserve System, International Finance Discussion Paper: 570; Board of Governors of the Federal Reserve System, Division of International Finance, Mail Stop 24, Washington, DC 20551. Website: www.bog.frb.fed.us. **PG** 31. **PR** no charge. **JE** F31, E43, F33. **KW** Exchange Rates. Interest Rates. Announcement Effects.

AB This paper examines the response of exchange rates and interest rates -- U.S. and foreign -- to economic news. The news is associated with the surprise component of the monthly release of six U.S. macroeconomic variables. The results suggest that dollar exchange rates systematically react to news about real economic activity -- a surprise of 100,000 on nonfarm payroll employment leads to 0.2 percent appreciation of the exchange rate. In general, exchange rates do not react systematically to news on inflation. By contrast, U.S. interest rates respond to both types of news, although the response continues to be extremely small, on the order of 1 to 2 basis points. Finally, Japanese interest rates systematically react, but to a very minor extent, to news about U.S. real economic activity, while German rates, in general, do not.

Edwards, Sebastian

PD September 1996. **TI** The Determinants of the Choice Between Fixed and Flexible Exchange-Rate Regimes. **AA** University of California, Los Angeles and National Bureau of Economic Research. **SR** National Bureau of Economic Research Working Paper: 5756; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. Website: www.nber.org. **PG** 18. **PR** $5.00. **JE** E32, E52, E58, F31. **KW** Exchange Rates. Business Cycles. Monetary Policy. Stability. Political Economy.

AB In recent years, analysts and policy makers alike have been evaluating the nexus between exchange rates and macroeconomic stability. Among the most important questions asked is why have some countries adopted rigid, including fixed, exchange- rate regimes, while others have opted for more flexible systems? This paper addresses this question from a political economy perspective, both theoretically and empirically. The model assumes that the monetary authority minimizes a quadratic loss function that captures the trade-off between inflation and unemployment. This framework is initially applied to the case where monetary authorities must choose between a (permanently) fixed and a flexible exchange-rate regime. The model is subsequently extended to cover the somewhat more complicated case where the authorities must choose between fixed- but-adjustable and flexible exchange-rate regimes. In the empirical section, an unbalanced panel data set of 63 countries from 1980-1992 is used to estimate a series of probit models.

PD October 1996. **TI** A Tale of Two Crises: Chile and Mexico. **AA** University of California, Los Angeles and National Bureau of Economic Research. **SR** National Bureau of Economic Research Working Paper: 5794; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. Website: www.nber.org. **PG** 37. **PR** $5.00. **JE** E31, E52, E58, E63, F31. **KW** Inflation. Foreign Exchange. Currency Collapse. Mexico. Chile.

AB Like 1980's Mexico, Chile during the 1970's undertook major structural reforms characterized by a drastic opening of the economy, a sweeping privatization program and major deregulation effort aimed at creating a modern financial sector. In Chile, as in Mexico, the use of a predetermined exchange rate to eliminate inflation, combined with very large capital inflows that were intermediated by a weak banking system, generated a situation of exchange-rate overvaluation, a vulnerable financial sector and eventually currency collapse. This paper provides a comparative analysis of some macroeconomic aspects of the Chilean and Mexican crises. The author develops a theoretical model on the effects of exchange-rate-based stabilization programs on inflationary inertia. The model emphasizes the role of government preferences and credibility. The author uses detailed data on Chile and Mexico to assess whether these programs affected the time series properties of inflation; more specifically, he investigates whether they reduced inflationary inertia.

Eichenbaum, Martin

TI Sticky Price and Limited Participation Models of Money: A Comparison. **AU** Christiano, Lawrence J.; Eichenbaum, Martin; Evans, Charles L.

Eichengreen, Barry

PD July 1996. **TI** Contagious Currency Crisis. **AU** Eichengreen, Barry; Rose, Andrew K.; Wyplosz, Charles. **AA** Eichengreen and Rose: University of California, Berkeley and National Bureau of Economic Research. Wyplosz: GIIS. **SR** National Bureau of Economic Research Working Paper: 5081; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. Website: www.nber.org. **PG** 38. **PR** $5.00. **JE** E52, F10, F31. **KW** International Trade. Currency Crisis. Foreign Exchange. Devaluation.

AB This paper is concerned with the fact that the incidents of speculative attacks tends to be temporarily correlated; that is, currency crisis appear to pass "contagiously" from one country to another. The paper provides a survey of the theoretical literature, and analyses the contagious nature of currency crises empirically. Using thirty years of panel data from twenty industrialized countries, we find evidence of contagion. Contagion appears to spread more easily to countries which are closely tied by international trade linkages than to countries in similar economic circumstances.

Eichner, Matthew

PD June 1996. **TI** Insurance or Self-Insurance?: Variation, Persistence, and Individual Health Accounts. **AU** Eichner, Matthew; McClellan, Mark; Wise, David. **AA** Eichner: Massachusetts Institute of Technology. McClellan: Stanford University and National Bureau of Economic Research. Wise: Harvard University and National Bureau of Economic Research. **SR** National Bureau of Economic Research Working Paper: 5640; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. Website: www.nber.org. **PG** 28. **PR** $5.00. **JE** G22, I11, J26. **KW** Health Insurance. Retirement Plans. Health Care. Medical Expenditures.

AB This paper explores the feasibility of catastrophic health insurance established in conjunction with individual health accounts (IHA's). Under this plan, the employer establishes both a high-deductible health insurance plan and an IHA. Employee health care costs below the deductible are then paid out of the IHA and costs above are paid by the insurance plan. Assets remaining in the account at retirement are available for other purposes. The paper develops preliminary empirical evidence on the distribution of medical expenditures -- and hence savings -- under an IHA plan. The analysis is based on longitudinal health insurance claims data from a large firm. Although such a plan would produce a range of balances across employees, approximately 80 percent would retain over 50 percent of their contributions. Only about 5 percent would retain less than 20 percent of their contributions. The outcomes suggest that such a plan is feasible.

Eisenberg, Theodore

PD July 1996. **TI** The Litigious Plaintiff Hypothesis: Case Selection and Resolution. **AU** Eisenberg, Theodore; Farber, Henry. **AA** Eisenberg: Cornell University. Farber: Princeton University and National Bureau of Economic Research. **SR** National Bureau of Economic Research Working Paper: 5649; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. Website: www.nber.org. **PG** 27. **PR** $5.00. **JE** K41. **KW** Law. Case Selection. Litigiousness. Dispute Resolution.

AB A central feature of the litigation process that affects case outcomes is the selection of cases for litigation. In this study, the authors present a theoretical framework for understanding the operation of this suit selection process and its relationship to the underlying distribution of potential claims and claimants. They implement the model empirically by assuming that individuals vary more in their litigiousness (inverse costs of litigation) than do corporations. This assumption, coupled with the case selection process we present, yields clear predictions on trial rates as a function of whether the plaintiff and defendant were individuals or corporations. The model also yields a prediction on the plaintiff's win rate in lawsuits as a function of the plaintiff's identity. The empirical analysis, using data on over 200,000 federal civil litigations, yields results that are generally consistent with the theory.

Engel, Charles

PD July 1996. **TI** Long-Run PPP May Not Hold After All. **AA** University of Washington and National Bureau of Economic Research. **SR** National Bureau of Economic Research Working Paper: 5646; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. Website: www.nber.org. **PG** 23. **PR** $5.00. **JE** C15, C52, E31, F31. **KW** Purchasing Power Parity. Exchange Rates. Foreign Exchange. Monte Carlo. Cointegration.

AB Recent tests using long data series find evidence in favor of long- run PPP (by rejecting either the null hypothesis of unit roots in real exchange rates or the null of no cointegration between nominal exchange rates and relative prices.) These tests may have reached the wrong conclusion. Monte Carlo experiments using artificial data calibrated to nominal exchange rates and disaggregated data on prices show that tests of long-run PPP have serious size biases. They may fail to detect a sizable and economically significant unit root component. For example, in the baseline case which is calibrated to actual price data, unit roots and cointegration tests with a nominal size of five percent have true sizes that range from .90 to .98 in artificial 100-year long data series, even though the unit root component accounts for 42 percent of the variance of the real exchange rate in sample.

PD September 1996. **TI** A Model of Foreign Exchange Rate Indetermination. **AA** University of Washington and National Bureau of Economic Research. **SR** National Bureau of Economic Research Working Paper: 5766; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. Website: www.nber.org. **PG** 17. **PR** $5.00. **JE** E58, F31. **KW** Foreign Exchange. Exchange Rates.

AB Economic agents undertake actions to protect themselves from the short-run impact of foreign exchange rate fluctuations: Nominal goods prices are set in consumers' currencies, and firms hedge foreign exchange risk. A model is presented here which shows that these features of the economy can lead to indeterminacy in the nominal exchange rate in the short run. There can be noise in the exchange rate, unrelated to any fundamentals, essentially because the short-run fluctuations do not influence any rational agent's behavior. Empirical implications of this sort of noise are explored.

PD September 1996. **TI** The Long-Run U.S./U.K. Real Exchange Rate. **AU** Engel, Charles; Kim, Chang-Jin. **AA** Engel: University of Washington and National Bureau of Economic Research. Kim: Korea University. **SR** National Bureau of Economic Research Working Paper: 5777; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. Website: www.nber.org. **PG** 19. **PR** $5.00. **JE** F31. **KW** United Kingdom. Exchange Rates. Foreign Exchange. Long Run.

AB We investigate the behavior of the long-run U.S./U.K. real exchange rate from 1885 to 1995. Our long-run real exchange rate series is derived from an unobserved components model which divides the real exchange rate into permanent and transitory components. The transitory component is modeled as having variances which switch, according to a Markov-switching process, among low, medium and high variance states. The underlying assumptions of our time-series model are based on an economic theory in which the permanent component represents real influences, while the transitory component represents primarily short-run movements due to nominal exchange rate fluctuations. Because the model is difficult to estimate by standard methods, we describe how the method of Gibbs sampling can handle this model. We find that our long-run real exchange rate series moves similarly to other measures proposed in the literature based on economic models.

Engen, Eric

PD September 1996. **TI** The Effects of Tax-Based Saving Incentives on Saving and Wealth. **AU** Engen, Eric; Gale, William; Scholz, John Karl. **AA** Engen: Federal Reserve Board. Gale: The Brookings Institution. Scholz: University of Wisconsin-Madison and National Bureau of Economic Research. **SR** National Bureau of Economic Research Working Paper: 5759; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. Website: www.nber.org. **PG** 59. **PR** $5.00. **JE** E21, G23, H20, H55. **KW** Savings. Incentives. Private Savings. Pension Funds.

AB This paper evaluates research examining the effects of tax-based saving incentives on private and national saving. Several factors make this an unusually difficult problem. First, households that participate in or are eligible for saving incentive plans have systematically stronger tastes for saving than other households. Second, the data indicate that households with saving incentives have taken on more debt than other households. Third, significant changes in the 1980's in financial markets, pensions, social security, and non-financial assets interacted with the expansion of saving incentives. Fourth, saving incentive accounts represent pre-tax balances, whereas conventional taxable accounts represent post-tax balances. Fifth, the fact that employer contributions to saving incentive plans are a part of total employee compensation is typically ignored. A major theme of this paper is that analyses that ignore these issues overstate the impact of saving incentives on saving.

Epstein, Marc

PD June 1997. **TI** Strategic Learning Through Corporate Environmental Management: Implementing the ISO 14001 Standard. **AU** Epstein, Marc; Roy, Marie Josee. **AA** Epstein: INSEAD. Roy: Ecole Polytechnique de Montreal. **SR** INSEAD Working Papers: 97/61/AC; INSEAD, Research and Development Department, Boulevard de Constance, 77305 Fontainebleau, France. Website: www.insead.fr/Research. **PG** 40. **PR** no charge up to five copies, after five copies 18FF per working paper plus postage and VAT. **JE** L21, L23, M11, M12, M14. **KW** Environmental Management. Competitive Advantage. Organizational Learning. Business.

AB Since the adoption of ISO 14001, companies have examined the standard and considered certification. But though the framework is useful and enhancing environmental management systems is beneficial, the adoption of ISO 14001 alone will not provide maximum company benefits. Companies must strive for an improvement in environmental performance and financial performance that can only be accomplished through significant changes in corporate culture, structure, and systems. By developing core capabilities such as skills and knowledge, physical technical systems, managerial systems, and values and norms companies can develop organizational learning to increase sustainable competitive advantage. This paper examines how the ISO 14000 series of standards can be used to improve organizational learning and environmental management.

PD June 1997. **TI** The Balanced Scorecard and Tableau de Bord: A Global Perspective on Translating Strategy into Action. **AU** Epstein, Marc; Manzoni, Jean-Francois. **AA** INSEAD. **SR** INSEAD Working Papers: 97/63/AC/SM; INSEAD, Research and Development Department, Boulevard de Constance, 77305 Fontainebleau, France. Website: www.insead.fr/Research. **PG** 19. **PR** no charge up to five copies, after five copies 18FF per working paper plus postage and VAT. **JE** J33, L21, M11, M21. **KW** Performance Measurement. Business Strategy. Compensation. France.

AB Over twenty years ago Steven Kerr wrote an article entitled "On the folly of hoping for A and rewarding B". The paper described how many companies' performance measurement systems were rewarding different behaviors than the ones they hoped to obtain from their employees. This issue has received much attention over the last few years. Robert Kaplan and David Norton have published a series of three Harvard Business Review articles proposing a specific framework, called Balanced Scorecard, to facilitate the translation of strategy into action. The idea of having some form of balanced picture of company performance is not new in itself. Many companies have for years tracked and reported multiple indicators. Further, many countries have also had particular traditions. In France, for example, companies have been using a related tool called "Tableau de Bord" for over fifty years. The paper reviews and compares Tableau de Bord and Balanced Scorecard.

Erosa, Andres

TI Private Money and Reserve Management in a Random Matching Model. **AU** Cavalcanti, Ricardo; Erosa, Andres; Temzelides, Ted.

Evans, Carolyn

TI Trade and Wages: Insights from the Crystal Ball. **AU** Lawrence, Robert; Evans, Carolyn.

Evans, Charles L.

TI Sticky Price and Limited Participation Models of Money: A Comparison. **AU** Christiano, Lawrence J.; Eichenbaum, Martin; Evans, Charles L.

Evans, George

PD July 1996. **TI** Growth Cycles. **AU** Evans, George; Honkapohja, Seppo; Romer, Paul. **AA** Evans: University of Oregon. Honkapohja: University of Helsinki. Romer: Stanford University and National Bureau of Economic Research. **SR** National Bureau of Economic Research Working Paper: 5659; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. Website: www.nber.org. **PG** 35. **PR** $5.00. **JE** D90, E32, O40. **KW** Investment. Growth. Rational Expectations. Capital Goods. Growth Cycles.

AB We construct a rational expectations model in which aggregate growth alternates between a low growth and a high growth state. When all agents expect growth to be slow, the returns on investment are low, and little investment takes place. This slows growth and confirms the prediction that the return on investment will be low. But if agents expect fast growth, investment is high, returns are high, and growth is rapid. This expectational indeterminancy is induced by complementarity between types of capital goods. In a growth cycle there are stochastic shifts between high and low growth states and agents take full account of these transitions. The rules that agents need to form rational expectations in this equilibrium are simple. The equilibrium with growth cycles is stable under the dynamics implied by a correspondingly simple learning rule.

Evans, William

TI Children and Their Parents' Labor Supply: Evidence from Exogenous Variation in Family Size. **AU** Angrist, Joshua; Evans, William.

Farber, Henry

TI The Litigious Plaintiff Hypothesis: Case Selection and Resolution. **AU** Eisenberg, Theodore; Farber, Henry.

Fardmanesh, Mohsen

PD December 1995. **TI** Price and Trade Liberalization in East European Economics. **AU** Fardmanesh, Mohsen; Tan, Li. **AA** Fardmanesh: Temple University. Tan: WEFA Group. **SR** Yale Economic Growth Center Discussion Paper: 751; Economic Growth Center, Publications Office, Yale University, P.O. Box 208269, New Haven, CT 06520-2869. Website: www.library.yale.edu/socsci/egcpage.html. **PG** 38. **PR** $2.00 plus postage. **JE** E22, E24, F13, F35, F41. **KW** Liberalization. Structural Adjustment. Eastern Europe. Transition Economics. International Trade.

AB This paper analyzes the structural impact of a comprehensive price and trade liberalization in the East European economies using a three- sector three-factor general equilibrium small open economy model developed here. Also, it studies the impact of foreign aid and illustrates the results quantitatively via simulation exercises. In the short run, the liberalization generates a significant structural shift in employment and production from manufacturing to the non-tradables, and may worsen or improve the real wage. In the long run, the structural shift is twice as large, and the real wage drops significantly while the returns to land and capital rise. The material input sector expands, and the national capital stock falls. Foreign aid, whose impact is noticeable only when it is in excess of 2% of GNP, exacerbates the structural shift, and may improve the real wage in the short run but has no impact on long run factor returns.

Fatas, Antonio

PD April 1997. **TI** Multipliers: Imperfect Competition or Increasing Returns to Scale? **AA** INSEAD and Centre for Economic Policy Research. **SR** INSEAD Working Papers: 97/44/EP; INSEAD, Research and Department, Boulevard de Constance, 77305 Fontainebleau, France. Website: www.insead.fr/Research. **PG** 5. **PR** no charge up to five copies, after five copies 18FF per working paper plus postage and VAT. **JE** E23, E32, L11. **KW** Increasing Returns. Imperfect Competition. Multipliers. Business Cycles. Shocks.

AB In a recent paper, Rotemberg and Woodford (1995) study the behavior of imperfectly competitive economies to conclude that imperfect competition magnifies the response of output to certain exogenous shocks. The author shows that their results are entirely driven by the presence of increasing returns to scale and not by imperfect competition.

PD April 1997. **TI** EMU: Countries or Regions? **AA** INSEAD and Centre for Economic Policy Research. **SR** INSEAD Working Papers: 97/45/EPS; INSEAD, Research and Development Department, Boulevard de Constance, 77305 Fontainebleau, France. Website: www.insead.fr/Research. **PG** 11. **PR** no charge up to five copies, after five copies 18FF per working paper plus postage and VAT. **JE** E32, F02, F33, F42. **KW** Monetary Union. Economic Integration. Regions. European Union. Shocks.

AB The future adoption of a single currency among some of the members of the European Union has raised many concerns about the ability of EMU to deal with shocks that are specific to regions or countries. The assumption behind these concerns is that national business cycles in Europe are fairly pronounced and that exchange rates are good stabilizing tools. This paper characterizes regional and national fluctuations within the European Union and it studies how the process of integration and the creation of the EMS have affected these patterns. The author's results indicate that national borders have seen their economic significance reduced over time as the process of integration has increased cross-border correlations and reduced within-border comovements.

Faulhaber, Gerald R.

PD May 1997. **TI** Voting on Prices: the Political Economy of Regulation. **AA** INSEAD and University of Pennsylvania. **SR** INSEAD Working Papers: 97/54/EPS; Research and Development Department, Boulevard de Constance, 77305 Fontainebleau, France. Website: www.insead.fr/Research. **PG** 22. **PR** no charge up to five copies, after five copies 18FF per working paper plus postage and VAT. **JE** D72, L12, L51, L96. **KW** Regulation. Political Economy. Median Voter. Telecommunications. Pricing.

AB Economists have long recognized that regulation is an imperfect solution to market failure. Do the inefficiencies of regulation outweigh the inefficiencies of market failure? In this paper, the author develops a stylized model of a monopolist offering two services, one more widely demanded than the other. He compares aggregate surplus from unregulated monopoly with aggregate surplus from a median voter model of price setting in a (perfectly) regulated monopoly. The author finds that i) median voter pricing can yield substantially lower aggregate surplus than monopoly pricing; and ii) empirical evidence of the recent evolution of U.S. telecommunications prices confirms the model.

PD May 1997. **TI** Public Policy for a Networked Nation. **AA** INSEAD and University of Pennsylvania. **SR** INSEAD Working Papers: 97/55/EPS; INSEAD, Research and Development Department, Boulevard de Constance, 77305 Fontainebleau, France. Website: www.insead.fr/Research. **PG** 23. **PR** no charge up to five copies, after five copies 18FF per working paper plus postage and VAT. **JE** L51, L96, L98, O38. **KW** Public Policy. Internet. Regulation. Broadband Networks.

AB The phenomenal growth of the Internet over the last few years suggests that demand for two-way broadband networks to homes and businesses may be emerging. The development of such an "information superhighway" represents the convergence of a number of previously distinct industries: computers, entertainment, telephone, cable TV, and the Internet. Each of these industries not only has its own strengths and culture, but also a unique relationship to government and the public policy process, from full regulation to full competition. This paper explores the likely public policy outcomes for two-way broadband networks, in terms of demands for universal service, quality of service, natural monopoly, and integration of content and conduit. The findings are that a competitive model is likely to best serve the interests of the nation and the world, but that sustaining that model against demands for some form of government intervention may be difficult. Several options are suggested.

Faust, Jon

PD November 1996. **TI** Money, Politics and the Post-War Business Cycle. **AU** Faust, Jon; Irons, John. **AA** Faust: Board of Governors of the Federal Reserve System. Irons: Massachusetts Institute of Technology. **SR** Board of Governors of the Federal Reserve System, International Finance Discussion Paper: 572; Board of Governors of the Federal Reserve System, Division of International Finance, Mail Stop 24, Washington, DC 20551. Website: www.bog.frb.fed.us. **PG** 40. **PR** no charge. **JE** E32, E42. **KW** Political Business Cycle. Simultaneity Bias. Omitted Variable Bias. Macroeconomic Policy.

AB While macroeconometricians continue to dispute the size, timing, and even the existence of effects of monetary policy, political economists often find large effects of political variables and often attribute the effects to manipulation of the Fed. Since the political macroeconometricians often use smaller information sets and less elaborate approaches to identification than do macroeconometricians, their striking results could be the result of simultaneity and omitted variable biases. Alternatively, political whims may provide the instrument for exogenous policy changes that has been the Grail of the policy identification literature. In this paper, we lay out and apply a framework for distinguishing these possibilities. We find almost no support for the hypothesis that political effects on the macroeconomy operate through monetary policy and only weak evidence that political effects are significant at all.

Feenstra, Robert C.

PD March 1997. **TI** Putting Things in Order: Patterns of Trade Dynamics and Growth. **AU** Feenstra, Robert C.; Rose, Andrew K. **AA** Feenstra: University of California, Davis. Rose: University of California, Berkeley. **SR** University of California, Davis, Department of Economics Working Paper: 97/14; Department of Economics, University of California, Davis, CA 95616-8578. **PG** 46. **PR** $3.00 U.S. and Canada, $4.00 international; make checks payable to "Regents of the University of California.". **JE** F10. **KW** SITC. Bilateral Trade. Export Ordering. Rank. Product Cycle.

AB We develop a procedure to rank-order countries and commodities using disaggregated American imports data. We find strong evidence that both countries and commodities can be ranked, consistent with the "product cycle" hypothesis. Countries habitually begin to export goods to the United States according to an ordering; goods are also exported in order. We estimate these orderings using a semi-parametric methodology which takes account of the fact that most goods are not exported by most countries in our sample. Our orderings seem sensible, robust and intuitive. For instance, our country rankings derived from disaggregated trade data turn out to be highly correlated with macroeconomic phenomena such as national productivity levels and growth rates.

PD April 1997. **TI** Testing Endogenous Growth in South Korea and Taiwan. **AU** Feenstra, Robert C.; Madani, Dorsati; Yang, Tzu-Han; Liang, Chi-Yuan. **AA** Feenstra: University of California, Davis, University of California at Berkeley, and National Bureau of Economic Research. Madani: The World Bank. Yang: Council for Economic Planning and Development, Executive Yuan, Taipei, R.O.C. Liang: Institute of Economics, Academia Sinica, Taipei, R.O.C. **SR** University of California, Davis, Department of Economics Working Paper: 97/16; Department of Economics, University of California, Davis, CA 95616-8578. **PG** 36. **PR** $3.00 U.S. and Canada, $4.00 international; make checks payable to "Regents of the University of California.". **JE** D24, F14, O47, O53. **KW** Endogenous Growth. Product Variety. Productivity. South Korea. Taiwan.

AB We evaluate the endogenous growth hypothesis using sectoral data for South Korea and Taiwan. Our empirical work relies on a direct measure of the variety of products from each sector, which can serve as intermediate inputs or as final goods. We test whether changes in the variety of these inputs, for Taiwan relative to Korea, are correlated with the growth in total factor productivity (TFP) in each sector, again measured in Taiwan relative to Korea. We find that changes in relative product variety (entered as either a lag or a lead) have a positive and significant effect on TFP in eight of the sixteen sectors. Seven out of these eight sectors are what we classify as secondary industries, in that they rely on differentiated manufactured inputs, and therefore seem to fit the idea of endogenous growth.

PD May 1997. **TI** Productivity Measurement and the Impact of Trade and Technology on Wages: Estimates for the U.S., 1972-1990. **AU** Feenstra, Robert C.; Hanson, Gordon H. **AA** Feenstra: University of California, Davis; University of California, Berkeley and National Bureau of Economic Research. **SR** University of California, Davis, Department of Economics Working Paper: 97/17; Department of Economics, University of California, Davis, CA 95616-8578. **PG** 35. **PR** $3.00 U.S. and Canada; $4.00 international; make checks payable to "Regents of the University of California.". **JE** E24, F10, J24, J31, O30. **KW** Productivity. Wages. Foreign Outsourcing. Technological Change.

AB We develop an empirical framework to assess the importance of trade and technical change on the wages of production and non-production workers. Trade is measured by the foreign outsourcing of intermediate inputs, while technical change is measured by the shift towards high- technology capital such as computers. In our benchmark specification, we find that both foreign outsourcing and expenditures on high-technology equipment can explain a substantial amount of the increase in the wages of non-production (high-skilled) relative to production (low-skilled) workers that occurred during the 1980's. Surprisingly, it is expenditures on high-technology capital other than computers that are most important. These results are very sensitive, however, to our benchmark assumption that industry prices are independent of productivity. When we allow for the endogeneity of industry prices, then expenditures on computers become the most important cause of the increased wage inequality, and have a 50% greater impact than does foreign outsourcing.

Feldman, Allan M.

PD March 1997. **TI** Kaldor-Hicks Compensation. **AA** Brown University. **SR** Brown University, Department of Economics Working Paper: 97/08; Department of Economics, Brown University, Providence, RI 02912. **PG** 17. **PR** no charge. **JE** D60. **KW** Kaldor Criterion. Kaldor-Hicks Improvement. Consumers' Surplus. Scitovsky Improvement.

AB This paper provides an explanation of the Kaldor-Hicks Compensation Criterion.

PD September 1997. **TI** Probabilistic Value of Life vs. Deterministic Value of Time. **AA** Brown University. **SR** Brown University, Department of Economics Working Paper: 97/22; Department of Economics, Brown University, Providence, RI 02912. **PG** 21. **PR** no charge. **JE** D11, D60, D61, D91. **KW** Value of Life. Value of Time. Willingness to Pay. Broome Paradox. Death.

AB This paper re-examines the standard probabilistic willingness to pay value of life model of Jones-Lee and others. A consumer decides on allocating his income between consumption, life insurance, and precaution -- which affects his probability of survival in the one future period. One innovation of the paper is to assume a simple exponential utility function, and to solve the probabilistic value of life model analytically. I show that the standard probabilistic value of life measure has some strikingly bad features, including a strong negative connection with altruism. I then discuss an alternative to the probabilistic value of life model. The alternative is a certainty model, in which a consumer decides how much to spend to increase the certain length of his life. I argue that the certainty buying time model has many advantages over the probabilistic value of life model, that it avoids several problems and paradoxes associated with the probabilistic model, and that it is more consistent with our intuition.

Feldstein, Martin

PD September 1996. **TI** The Transition Path in Privatizing Social Security. **AU** Feldstein, Martin; Samwick, Andrew. **AA** Feldstein: National Bureau of Economic Research. Samwick: Dartmouth College and National Bureau of Economic Research. **SR** National Bureau of Economic Research Working Paper: 5761; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. Website: www.nber.org. **PG** 49. **PR** $5.00. **JE** D91, H55, L33. **KW** Social Security. Privatization. IRA's. Retirement. Pension Funds.

AB This paper analyzes the transition from the existing pay-as-you-go Social Security program to a system of funded Mandatory Individual Retirement Accounts (MIRA's). Because of the high return on real capital relative to the very low return in a mature pay- as-you-go program, the benefits that can be financed with the existing 12.4 percent payroll tax could eventually be funded with mandatory contributions of only 2.1 percent of payroll. A transition to that fully funded program could be done with a surcharge of less than 1.5 percent of payroll during the early part of the transition. After 25 years, the combination of financing the pay-as-you-go benefits and accumulating the funded accounts would require less than the current 12.4 percent of payroll. The paper also discusses how a MIRA system could deal with the benefits of low income employees and with the risks associated with uncertain longevity and fluctuating market returns.

Ferrer, Geraldo

PD February 1997. **TI** Communicating Developments in Product Recovery. **AA** INSEAD. **SR** INSEAD Working Papers: 97/30/TM; INSEAD, Research and Development Department, Boulevard de Constance, 77305 Fontainebleau, France. Website: www.insead.fr/Research. **PG** 13. **PR** no charge up to five copies, after five copies 18FF per working paper plus postage and VAT. **JE** L21, L69, Q29, Q39. **KW** Product Recovery. Recycling. Remanufacturing. Nomenclature.

AB This article attempts to aggregate and clarify the meaning of some expressions adopted in the product recovery research. Some of them are neologisms. In some instances, researchers and practitioners in the field have used these expressions with conflicting meanings. Hopefully, this paper will facilitate communication by indicating a common usage for the expressions in the product recovery vocabulary.

TI Eco-Efficiency, Asset Recovery and Remanufacturing. **AU** Ayres, Robert U.; Ferrer, Geraldo; Van Leynseele, Tania.

PD March 1997. **TI** The Economics of PC Remanufacturing. **AA** INSEAD. **SR** INSEAD Working Papers: 97/37/TM; INSEAD, Research and Development Department, Boulevard de Constance, 77305 Fontainebleau, France. Website: www.insead.fr/Research. **PG** 36. **PR** no charge up to five copies, after five copies 18FF per working paper plus postage and VAT. **JE** L23, L63, O33, Q32. **KW** Product Recovery. Remanufacturing. Recycling. Personal Computers. Environmental Design.

AB Personal computers are among the durable goods of shortest life cycle. Given the increased population of PC's and their quick turnover, their disposal represents a considerable environmental concern. However, many users do not require the latest technology for running their applications. This opens an opportunity for renovated or remanufactured machines. This paper addresses the complexity of PC manufacturing and the difficulties in developing adequate recovery processes. A recovery process is proposed and evaluated. It allows the coexistence of two markets: one for remanufactured PC's and another for all-new PC's.

PD May 1997. **TI** The Impact of Remanufacturing in the Economy. **AU** Ferrer, Geraldo; Ayres, Robert U. **AA** INSEAD. **SR** INSEAD Working Papers: 97/52/TM; INSEAD, Research and Development Department, Boulevard de Constance, 77305 Fontainebleau, France. Website: www.insead.fr/Research. **PG** 51. **PR** no charge up to five copies, after five copies 18FF per working paper plus postage and VAT. **JE** C67, D24, L21, L23, L68. **KW** Remanufacturing. Product Recovery. Inter-Industry Flows. Input-Output Model. France.

AB The 43-sector aggregation of the French Input-output model is used to evaluate the impact that remanufacturing may have on the economy. Very few durables are recovered at the end of their useful lives. In this paper, the authors evaluate several hypothetical scenarios where remanufacturing becomes the usual practice. It would have direct impacts on the demand for several inputs. We adapt the inter-industry input- output framework so as to take into consideration these changes. The analysis assumes that the remanufacturing sector substitutes usual inputs such as raw materials and semi-finished goods for labor and transport services. In addition it is assumed that the final demand for all goods is unchanged. As a result, we find that remanufacturing reduces the total output from all sectors while increasing the value of labor regarding the demanded goods.

Fisher, Jonas

TI Aggregate Employment Fluctuations with Microeconomic Asymmetries. **AU** Campbell, Jeffrey; Fisher, Jonas.

Fleischman, Charles A.

PD December 1996. **TI** The Endogeneity of Employment Adjustment Costs: The Tradeoff Between Efficiency and Flexibility. **AA** Board of Governors of the Federal Reserve System. **SR** Board of Governors of the Federal Reserve System, Finance and Economics Discussion Paper Series: 1996/48; Ms. Karen Blackwell, FEDS Secretary, Mail Stop 77, Federal Reserve Board, Washington, DC 20551. Website: www.bog.frb.fed.us/pubs/feds. **PG** 24. **PR** no charge. **JE** D21, D23, D24, E23, E24. **KW** Employment. Production. Adjustment Costs. Employment Volatility.

AB This paper models a firm's choice of employment adjustment costs as one component of its choice of production process. In making a one-time choice of production process, firms tradeoff increased flexibility -- the reduced cost of changing levels of production -- against the diminished efficiency of producing a given level of output. The model predicts that firms facing greater volatility in expected employment choose production processes that entail relatively low costs of adjusting employment. Using estimates of adjustment costs and employment volatility for four-digit manufacturing industries, the paper finds empirical support for the model: Among four-digit industries facing similar choices of production process, those with more volatile employment tend to have lower costs of adjusting employment. Moreover, the paper finds that inter-industry heterogeneity in the amplitude of deterministic seasonal fluctuations in employment is more important than the variance of stochastic employment fluctuations in explaining the choice of adjustment costs.

Fleischmann, Moritz

PD June 1997. **TI** Quantitative Models for Reverse Logistics: A Review. **AU** Fleischmann, Moritz; Bloemhof-Ruwaard, Jacqueline; Dekker, Rommert; Van Der Laan, Erwin; Van Nunen, Jo; Van Wassenhove, Luk N. **AA** Fleischmann, Bloemhof-Ruwaard, Dekker, Van der Laan, and Van Nunen: Erasmus University Rotterdam. Van Wassenhove: INSEAD. **SR** INSEAD Working Papers: 97/64/TM; INSEAD, Research and Development Department, Boulevard de Constance, 77305 Fontainebleau, France. Website: www.insead.fr/Research. **PG** 24. **PR** no charge up to five copies, after five copies 18FF per working paper plus postage and VAT. **JE** D24, L23, Q32, Q39. **KW** Quantitative Modeling. Product Recovery. Logistics. Recycling.

AB This article surveys the recently emerged field of reverse logistics. The management of return flows induced by the various forms of reuse of products and materials in industrial production processes has received growing attention throughout this decade. Many authors have proposed quantitative models taking those changes in the logistics environment into account. However, no general framework has been suggested yet. Therefore the time seems right for a systematic overview of the issues arising in the context of reverse logistics. In this paper, the authors subdivide the field into three main areas, namely distribution planning, inventory control, and production planning. For each of these, the authors discuss the implications of the emerging reuse efforts, review the mathematical models proposed in the literature, and point out the areas in need of further research. Special attention is paid to differences and/or similarities with classical "forward" logistics methods.

Fleurbaey,

TI Critical Levels And The (Reverse) Repugnant Conclusion. **AU** Blackorby, Charles; Bossert, Walter; Donaldson, David; Fleurbaey, Marc.

Flood, Robert P.

PD October 1996. **TI** Speculative Attacks: Fundamentals and Self-Fulfilling Prophecies. **AU** Flood, Robert P.; Marion, Nancy P. **AA** Flood: International Monetary Fund and National Bureau of Economic Research. Marion: Dartmouth College. **SR** National Bureau of Economic Research Working Paper: 5789; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. Website: www.nber.org. **PG** 31. **PR** $5.00. **JE** E32, E58, F31, G15. **KW** Speculative Attack. Foreign Exchange. Mexico. Europe. Currency Crises.

AB The authors develop a modified "first generation model" in order to understand better the 1994 Mexican peso crisis as well as aspects of the European currency crises in 1992-93. They introduce the assumption that the speculative attack is sterilized by the domestic monetary authority, they incorporate a stochastic risk premium, and they allow for some price stickiness. The modified model shows that macroeconomic policies inconsistent in the longer run with a fixed exchange rate can push the economy inevitably towards a currency crisis. But the model also demonstrates how a government currently following consistent macroeconomic policies can suddenly face a speculative attack triggered by a large shift in speculative opinion. However, the ability of a sudden shift in speculative opinion to trigger an attack is bounded by the position of fundamentals. Thus an attack does not require a late change in policies to make it profitable.

Foresi, Silverio

TI Affine Models of Currency Pricing. **AU** Backus, David; Foresi, Silverio; Telmer, Chris.

TI Arbitrage Opportunities in Arbitrage-Free Models of

Bond Pricing. **AU** Backus, David; Foresi, Silverio; Zin, Stanley.

Fox, Kevin J.

TI Can Measurement Error Explain the Productivity Paradox? **AU** Diewert, W. Erwin; Fox, Kevin J.

TI The Measurement of Inflation After Tax Reform. **AU** Diewert, W. Erwin; Fox, Kevin J.

Francisco M. Gonzalez

PD September 1997. **TI** Cyclical Experimentation. **AA** University of British Columbia. **SR** University of British Columbia, Department of Economics, Discussion Paper: 97/23; Department of Economics, University of British Columbia, #997-1873 East Mall, Vancouver, BC V6T 1Z1. Website: web.arts.ubc.ca/econ. **PG** 37. **PR** **JE** D83. **KW** Learning. Experimentation. Markovian Dynamics. Discounting.
AB This paper studies the optimal behavior by an agent who learns from experience. A simple model is presented in which the environment changes in a Markovian fashion. The martingale convergence theorem fails to apply and, instead, it is shown that mean reversion in the process of beliefs can lead to cyclical experimentation, where learning must be resumed after a sufficiently long period of inactivity. When the model is compared to a model with a completely observable environment, the following conclusions are obtained: first, cycles in activity differ from the underlying driving cycle. In particular, cyclical experimentation induces asymmetric cycles in activity. Second, incomplete learning obtains even in the limit as there is no discounting, despite the fact that complete learning may be feasible.

PD September 1997. **TI** Individual Experimentation and Aggregate Fluctuations. **AA** University of British Columbia. **SR** University of British Columbia, Department of Economics, Discussion Paper: 97/24; Department of Economics, University of British Columbia, #997-1873 East Mall, Vancouver, BC V6T 1Z1. Website: web.arts.ubc.ca/econ. **PG** 32. **PR** **JE** D83, E32. **KW** Asymmetric Cycles. Coordination. Experimentation. Informational Externalities. Learning.
AB This paper develops a model of experimentation and cycles that emphasizes the macroeconomic implications of the interplay between the processes of learning from individual experience and learning from others. The model provides an explanation for the observed asymmetries over the business cycle: aggregate fluctuations exhibit slow recoveries and rapid downturns. It also provides a theory for the economic recovery after the recession whose key element is the coordination of agents' learning activities.

Frankel, Jeffrey A.

PD August 1996. **TI** The Endogeneity of the Optimum Currency Area Criteria. **AU** Frankel, Jeffrey A.; Rose, Andrew K. **AA** University of California, Berkeley and National Bureau of Economic Research. **SR** National Bureau of Economic Research Working Paper: 5700; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. Website: www.nber.org. **PG** 22. **PR** $5.00. **JE** E32, F15, F33, F41, F42. **KW** Economic Integration. Monetary Union. International Trade. Business Cycles.
AB A country's suitability for entry into a currency union depends on a number of economic conditions. These include, inter alia, the intensity of trade with other potential members of the currency union, and the extent to which domestic business cycles are correlated with those of the other countries. But international trade patterns and international business cycle correlations are endogenous. This paper develops and investigates the relationship between the two phenomena. Using thirty years of data for twenty industrialized countries, we uncover a strong and striking empirical finding: countries with closer trade links tend to have more tightly correlated business cycles. It follows that countries are more likely to satisfy the criteria for entry into a currency union after taking steps toward economic integration than before.

PD August 1996. **TI** Country Fund Discounts, Asymmetric Information and the Mexican Crisis of 1994: Did Local Residents Turn Pessimistic Before International Investors? **AU** Frankel, Jeffrey A.; Schmukler, Sergio. **AA** Frankel: University of California, Berkeley and National Bureau of Economic Research. Schmukler: University of California, Berkeley. **SR** National Bureau of Economic Research Working Paper: 5714; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. Website: www.nber.org. **PG** 28. **PR** $5.00. **JE** D82, E63, F31, F36. **KW** Asymmetric Information. Mexico. Granger Causality. Expectations. Currency Crises.
AB It has been suggested that Mexican investors were the "front-runners" in the peso crisis of December 1994, turning pessimistic before international investors. Different expectations about their own country, perhaps due to asymmetric information, prompted Mexican investors to be the first ones to leave the country. This paper uses data from three Mexican country funds to investigate the hypothesis of "divergent expectations." We find that, right before the devaluation, Mexican fund Net Asset Values (mainly driven by Mexican investors) dropped faster than Mexican country fund prices (mainly driven by foreign investors). Moreover, we find that Mexican NAV's tend to Granger-cause the country fund prices. This suggests that causality, in some sense, flows from the Mexico City investor community to the Wall Street investor community. More generally, the paper proposes an asymmetric information approach that differs from the existing explanations of country fund discounts.

PD August 1996. **TI** Trade and Growth in East Asian Countries: Cause and Effect? **AU** Frankel, Jeffrey A.; Romer, David H.; Cyrus, Teresa. **AA** Frankel and Romer: University of California, Berkeley and National Bureau of Economic Research. Cyrus: University of California, Berkeley. **SR** National Bureau of Economic Research Working Paper: 5732; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. Website: www.nber.org. **PG** 16. **PR** $5.00. **JE** F43, O40. **KW** International Trade. Growth. East Asia. Simultaneous Causality.
AB Estimates of growth equations have found a role for openness, particularly in explaining rapid growth among East Asian countries. But major concerns of simultaneous causality between growth and trade have been expressed. This study aims to deal with the endogeneity of trade by using as instrumental variables the exogenous determinants from the gravity model of bilateral trade, such as proximity to trading partners. We find that the effect of openness on growth is even stronger when we correct for the endogeneity of openness than in standard OLS

estimates. We conclude with estimates of how much has been contributed to East Asian growth both by the exogenous or geographical component of openness and by the residual or policy component.

Frankl, P.

PD June 1997. **TI** Simplified Life-Cycle Analysis of PV Systems in Buildings: Present Situation and Future Trends. **AU** Frankl, P.; Masini, A.; Gamberale, M.; Toccaceli, D. **AA** Frankl and Masini: INSEAD. Gamberale and Toccaceli: Universita degli Studi di Roma. **SR** INSEAD Working Papers: 97/65/TM; INSEAD, Research and Development Department, Boulevard de Constance, 77305 Fontainebleau Cedex, France. Website: www.insead.fr/Research. **PG** 11. **PR** no charge up to five copies, after five copies 18FF per working paper plus postage and VAT. **JE** L20, L94, Q42. **KW** Environmental Impact. Energy. Photovoltaic Systems. Life Cycle Analysis.

AB The integration of photovoltaic (PV) systems in buildings shows several advantages compared with conventional PV power plants. This paper's main objectives are the quantitative evaluation of the benefits of building-integrated PV systems over their entire life-cycle and the identification of best solutions to maximize their energy efficiency and CO2 mitigation potential. To achieve these objectives, a simplified Life-Cycle Analysis (LCA) has been carried out. The methodology has been applied to PV systems in two steps: (1) a number of existing applications have been studied; (2) a parametric analysis of possible improvements in the Balance-of-System has been developed and included in the model. Finally, the two steps have been combined with the analysis of crystalline silicon technologies. Results are reported in terms of several indicators. The indicators show that the integration of PV systems in buildings clearly increases the environmental benefits of present PV technology.

Gagnon, Joseph E.

PD December 1996. **TI** Net Foreign Assets and Equilibrium Exchange Rates: Panel Evidence. **AA** Board of Governors of the Federal Reserve System. **SR** Board of Governors of the Federal Reserve System, International Finance Discussion Paper: 574; Board of Governors of the Federal Reserve System, Division of International Finance, Mail Stop 24, Washington, DC 20551. Website: www.bog.frb.fed.us. **PG** 28. **PR** no charge. **JE** F21, F31. **KW** Foreign Assets. Purchasing Power Parity. Cointegration. Stationarity.

AB By exploiting the information in a panel data set, this paper is able to construct more powerful tests of various hypothesis on the determinants of real exchange rates than would be possible with single- country time-series data. Focusing on annual data for 20 industrial countries from 1973 through 1995, there are three major results. First, the evidence for a stationary real exchange rate is stronger when the exchange rate is defined in terms of wholesale prices than consumer prices, presumably because of the greater tradability of wholesome commodities. Second, the half-life of shocks to the real exchange rate is between two and three years. Third, there is a significant and robust relationship between real exchange rates and net foreign assets.

Gale, William

TI The Effects of Tax-Based Saving Incentives on Saving and Wealth. **AU** Engen, Eric; Gale, William; Scholz, John Karl.

Gali, Jordi

PD August 1996. **TI** Technology, Employment, and the Business Cycle: Do Technology Shocks Explain Aggregate Fluctuations? **AA** New York University and National Bureau of Economic Research. **SR** National Bureau of Economic Research Working Paper: 5721; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. Website: www.nber.org. **PG** 29. **PR** $5.00. **JE** E24, E32, O33. **KW** Business Cycles. Employment. Technology.

AB Using data for the G7 countries, I estimate conditional correlations of employment and productivity, based on a decomposition of the two series into technology and non-technology components. The picture that emerges is hard to reconcile with the predictions of the standard Real Business Cycle model. For a majority of countries the following results stand out: (a) technology shocks appear to induce a negative comovement between productivity and employment, counterbalanced by a positive comovement generated by demand shocks, (b) the impulse responses show a persistent decline of employment in response to a positive technology shock, and (c) measured productivity increases temporarily in response to a positive demand shock. More generally, the pattern of economic fluctuations attributed to technology shocks seems to be largely unrelated to major postwar cyclical episodes. A simple model with monopolistic competition, sticky prices, and variable effort is shown to be able to account for the empirical findings.

Gamberale, M.

TI Simplified Life-Cycle Analysis of PV Systems in Buildings: Present Situation and Future Trends. **AU** Frankl, P.; Masini, A.; Gamberale, M.; Toccaceli, D.

Gandal, Neil

PD June 1997. **TI** The Dynamics of Technological Adoption in Hardware/Software Systems: The Case of Compact Disc Players. **AU** Gandal, Neil; Kende, Michael; Rob, Rafael. **AA** Gandal: Tel Aviv University and University of Texas. Kende: INSEAD. Rob: University of Pennsylvania. **SR** INSEAD Working Papers: 97/62/EPS; INSEAD, Research and Development Department, Boulevard de Constance, 77305 Fontainebleau, France. Website: www.insead.fr/Research. **PG** 37. **PR** no charge up to five copies, after five copies 18FF per working paper plus postage and VAT. **JE** D12, L63, O31, O33. **KW** Technological Adoption. Complementary Products. Software. Hardware.

AB In this paper, the authors examine the dynamic resolution of technological adoption in "hardware/software" systems. They are interested in determining to what extent software availability affects hardware sales and/or vice-versa. They first develop a dynamic model for estimating demand when costs (and hence prices) are declining over time. They then estimate it empirically for the case of compact disc players. The authors find that there is "two-way" feedback between hardware and software for compact disc players. The results that the availability of compatible software (the CD's) plays a significant role in determining the adoption of compact disc players are due in part to the fact that compact disc players were not compatible with any existing audio standard.

Gangadharan, Jaisri

PD July 1996. **TI** The Effects of Child-Bearing on Married Women's Labor Supply and Earnings: Using Twin Births As a Natural Experiment. **AU** Gangadharan, Jaisri; Rosenbloom, Joshua. **AA** Gangadharan: University of Kansas. Rosembloom: University of Kansas and National Bureau of Economic Research. **SR** National Bureau of Economic Research Working Paper: 5647; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. Website: www.nber.org. **PG** 16. **PR** $5.00. **JE** J12, J13, J22, J31, J71. **KW** Labor Supply. Wage Differentials. Pregnancy. Fertility. Wage Level.

AB Married women's decisions about child-bearing and market work are importantly interrelated. Although there are many estimates of the effects of fertility on female labor supply few of them have adequately addressed the problems of simultancity inherent in these choices. In this paper, we use exogenous variations in fertility due to twin births to measure the impact of an unanticipated child on married women's labor supply and earnings. We find that the short-run effects of an unanticipated birth on labor supply are appreciable and have increased in magnitude as more mothers enter the labor market. It also appears that the impact of unanticipated births on earnings and wages has changed from 1980 to 1990. In 1980 reduced labor supply caused a temporary drop in earnings, but in 1990 earnings and wages remained depressed well after the labor supply effects of a twin birth had disappeared.

Gardecki, Rosella

TI Women Helping Women? Role-Model and Mentoring Effects on Female Ph.D. Students in Economics. **AU** Neumark, David; Gardecki, Rosella.

Garrett, Daniel

TI The Determinants and Consequences of Financial Education in the Workplace: Evidence from a Survey of Households. **AU** Bernheim, B. Douglas; Garrett, Daniel.

Ghoshal, Sumantra

TI Value Creation by Firms. **AU** Moran, Peter; Ghoshal, Sumantra.

PD February 1997. **TI** Employment Security, Employability and Sustainable Competitive Advantage. **AU** Ghoshal, Sumantra; Moran, Peter; Bartlett, Christopher A. **AA** Ghoshal: London Business School. Moran: INSEAD. Bartlett: Harvard Business School. **SR** INSEAD Working Papers: 97/20/SM; INSEAD, Research and Development Department, Boulevard de Constance, 77305 Fontainebleau, France. Website: www.insead.fr/Research. **PG** 42. **PR** no charge up to five copies, after five copies 18FF per working paper plus postage and VAT. **JE** D40, J23, J24, J53. **KW** Employment Security. Competitive Advantage. Rent. Employability.

AB Companies world-wide are abandoning long held promises and policies of employment security, with no clear alternative to replace it. Many see this change as an inevitable response to a dilemma brought about by the increasingly dynamic competitive environments that many employers must reckon with. In this paper, the authors present a model of sustainable competitive advantage in dynamic environments that points to one way of overcoming this dilemma and provides a theoretical basis for addressing the observed changes in employment practices. In the authors' model, rent creation replaces rent appropriation as the key source of competitive advantage and employability substitutes for employment security as the defining characteristic of the employment relationship. Such a relationship, they show, can provide for stable and adaptable employment relationships and may, therefore, be of advantage for the firm as well as for the employee.

PD February 1997. **TI** Management Competence, Firm Growth and Economic Progress. **AU** Ghoshal, Sumantra; Hahn, Martin; Moran, Peter. **AA** Ghoshal: London Business School. Hahn: Massachusetts Institute of Technology. Moran: INSEAD. **SR** INSEAD Working Papers: 97/21/SM; INSEAD, Research and Development Department, Boulevard de Constance, 77305 Fontainebleau, France. Website: www.insead.fr/Research. **PG** 57. **PR** no charge up to five copies, after five copies 18FF per working paper plus postage and VAT. **JE** D92, L11, L23, M11, O12. **KW** Value Creation. Management Competence. Entrepreneurial Judgement. Organizational Capability. Industrial Organization.

AB Starting from the empirical observation of a positive correlation between the relative prosperity of an economy and the number of large firms operating in that economy, the authors propose that this correlation is an artifact of the positive influence of "management competence" on both these variables. The authors develop a theoretical framework that distinguishes between two aspects of management competence -- entrepreneurial judgement and organizational capability. Both aspects relate to the process of value creation through the combination and exchange of economic resources: whereas entrepreneurial judgement refers to the cognitive aspect of perceiving potential new resource combinations and exchanges, organizational capability is the ability to actually carry them out. As they show, the interplay of those two factors affects the speed at which firms expand their operations, the kind of expansion, and the progress through which firms create value, not just themselves, but for society as a whole.

Gibbons, Robert

PD August 1996. **TI** Incentives and Careers in Organizations. **AA** Cornell University and National Bureau of Economic Research. **SR** National Bureau of Economic Research Working Paper: 5705; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. Website: www.nber.org. **PG** 26. **PR** $5.00. **JE** D82, J23, J31. **KW** Labor Economics. Wages. Survey. Principal Agent. Incentives.

AB This paper surveys two related pieces of the labor-economics literature: incentive pay and careers in organizations. In the discussion of incentives, I first summarize theory and evidence related to the classic agency model, which emphasizes the tradeoff between insurance and incentives. I then offer econometric and case-study evidence suggesting that this classic model ignores several crucial issues and sketch new models that begin to analyze these issues. In the discussion of careers in organizations, I begin by summarizing evidence on wages and positions using panel data within firms. This evidence is sparse and far-flung (drawn from industrial relations, organizational behavior, and sociology, as well as from labor economics); I identify ten basic questions that merit more systematic investigation. Turning to theory, I describe building-block models that address one or a few pieces of evidence, but focus on more recent models that address broad patterns of evidence.

Giraitis, Liudas

PD February 1997. **TI** Rate Optimal Semiparametric Estimation of the Memory Parameter of the Gaussian Time Series with Long Range Dependence. **AU** Giraitis, Liudas; Robinson, Peter M.; Samarov, Alexander. **AA** Giraitis: Heidelberg University. Robinson: London School of Economics. Samarov: University of Massachusetts and Massachusetts Institute of Technology. **SR** STICERD, London School of Economics Discussion Papers Series: EM/97/323; STICERD, Room R.415, London School of Economics and Political Science, Houghton Street, London WC2A 2AE, UK. **PG** 16. **PR** no charge. **JE** C14, C22. **KW** Long Range Dependence. Semiparametric Models. Convergence Rates. Lower Bounds. Time Series.

AB There exist several estimators of the memory parameter in long-memory time series models with mean x and the spectrum specified only locally near zero frequency. In this paper we give a lower bound for the rate of convergence of any estimator of the memory parameter as a function of the degree of local smoothness of the spectral density at zero. The lower bound allows one to evaluate and compare different estimators by their asymptotic behavior, and to claim the rate optimality for any estimator attaining the bound. The log-periodogram regression estimator, analyzed by Robinson (1992), is then shown to attain the lower bound, and is thus rate optimal.

Goldberg, Pinelopi Koujianou

PD July 1996. **TI** The Effects of the Corporate Average Fuel Efficiency Standards. **AA** Princeton University and National Bureau of Economic Research. **SR** National Bureau of Economic Research Working Paper: 5673; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. Website: www.nber.org. **PG** 45. **PR** $5.00. **JE** H80, L62, Q31, Q38. **KW** Auto Industry. Automobile Taxes. Vehicle Utilization. Fuel Efficiency.

AB This paper examines the effects of the Corporate Average Fuel Efficiency standards (CAFE) on the automobile product mix, prices, and fuel consumption. To this end, first a discrete choice model of automobile demand and a continuous model of vehicle utilization are estimated using micro data from the Consumer Expenditure Survey for 1984-1990. Next, the demand side model is combined with a model of oligopoly and product differentiation on the supply side. After the demand and supply parameters are estimated, the effects of the CAFE regulation are assessed through simulations, and compared to the effects of alternative policy instruments, such as a powerful gas guzzler tax and an increase in the gasoline tax. The paper's results can be summarized as follows: Vehicle utilization is in the short run unresponsive to fuel cost changes; vehicle purchases, however, respond to both car prices and fuel cost.

Goldfajn, Ilan

PD July 1996. **TI** The Aftermath of Appreciations. **AU** Goldfajn, Ilan; Valdes, Rodgrigo. **AA** Goldfajn: Brandeis University. Valdes: Central Bank of Chile. **SR** National Bureau of Economic Research Working Paper: 5650; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. Website: www.nber.org. **PG** 38. **PR** $5.00. **JE** E31, E52, F31. **KW** Foreign Exchange. Exchange Rates. Currency Appreciation. Devaluations. Monetary Policy.

AB This paper empirically analyzes a broad range of real exchange rate appreciation episodes. The cases are identified after compiling a large sample of monthly multilateral real exchange rates from 1960 to 1994. The objective is twofold. First, the paper studies the dynamics of appreciations, avoiding the sample selection of analyzing exclusively the crisis (or devaluation) cases. Second, the paper analyzes the mechanism by which overvaluations are corrected. In particular, we are interested in the proportion of the reversions that occur through nominal devaluations, rather than cumulative inflation differentials. We calculate the probability of undoing appreciations without nominal depreciations for various degrees of misalignment. The overall conclusion is that it is very unlikely to undo large and medium appreciations without nominal devaluations.

Goldin, Claudia

PD July 1996. **TI** The Origins of Technology-Skill Complementarity. **AU** Goldin, Claudia; Katz, Lawrence F. **AA** Harvard University and National Bureau of Economic Research. **SR** National Bureau of Economic Research Working Paper: 5657; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. Website: www.nber.org. **PG** 26. **PR** $5.00. **JE** E22, J31, L23, L60, O30. **KW** Wage Structure. Manufacturing. Technology. Wage Inequality. Complementarity.

AB Current concern with relationships among particular technologies, capital, and the wage structure motivates this study of the origins of technology-skill complementarity in manufacturing. The authors offer evidence of the existence of technology-skill and capital-skill (relative) complementarities from 1909 to 1929 and suggest that they were associated with continuous-process and batch methods and the adoption of electric motors. Industries that used more capital per worker and a greater proportion of their horsepower in the form of purchased electricity employed relatively more educated blue-collar workers in 1940 and paid their blue-collar workers substantially more from 1909 to 1929. The authors also infer capital-skill complementarity and find that the relationship was as large from 1909-19 as it has been recently. Finally, they link their findings to those on the high-school movement (1910-1940). The rapid increase in the supply of skills from 1910 to 1940 may have prevented rising inequality with technological change.

Good, David H.

PD October 1996. **TI** Index Number and Factor Demand Approaches to the Estimation of Productivity. **AU** Good, David H.; Nadiri, M. Ishaq; Sickles, Robin C. **AA** Good: Indiana University. Nadiri: New York University and National Bureau of Economic Research. Sickles: Rice University. **SR** National Bureau of Economic Research Working Paper: 5790; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. Website: www.nber.org. **PG** 81. **PR** $5.00. **JE** D24, E25, O32, O47. **KW** Productivity Growth. Technology. Index Number. Factor Demand.

AB In this paper we review a number of analytical methods and issues related to identifying and estimating the source of productivity growth. The two major methods used in measuring productivity growth -- index number and econometric estimation approach -- are briefly discussed. Substantive issues such as the contribution of R&D capital and

R&D spillovers, infrastructure capital, allocative distortions, nature of the market structure and technological advancement on productivity growth at various levels of aggregation are examined. The attributes of the static and dynamic factor demand models used to estimate the contribution of different inputs to productivity growth are described and the evaluation of how the production process changes in response to exogenous factors and their impact on productivity growth are discussed. Econometric issues and data considerations for proper estimation of the underlying structural models are noted briefly as well.

Gordon, Robert

PD August 1996. **TI** The Time-Varying NAIRU and Its Implications for Economic Policy. **AA** Northwestern University and National Bureau of Economic Research. **SR** National Bureau of Economic Research Working Paper: 5735; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. Website: www.nber.org. **PG** 37. **PR** $5.00. **JE** E24, E31. **KW** Inflation. Unemployment. Economic Policy.

AB This paper estimates the NAIRU (standing for the Non-Accelerating Inflation Rate of Unemployment) as a parameter that varies over time. The NAIRU is the unemployment rate that is consistent with a constant rate of inflation. Its value is determined in an econometric model in which the inflation rate depends on its own past values ("inertia"), demand shocks proxied by the difference between the actual unemployment rate and the estimated NAIRU, and a set of supply shock variables. The estimated NAIRU for the U.S. economy differs somewhat for alternative measures of the inflation rate. The NAIRU estimated for the GDP deflator varies over the past forty years within the narrow range of 5.7 to 6.4 percent; its estimated value for the most recent quarter (1996:Q1) is 5.7 percent. In that quarter a lower NAIRU of 5.3 percent is obtained for the chain-weighted PCE deflator.

PD September 1996. **TI** Macroeconomic Policy in the Presence of Structural Maladjustment. **AA** Northwestern University and National Bureau of Economic Research. **SR** National Bureau of Economic Research Working Paper: 5739; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. Website: www.nber.org. **PG** 39. **PR** $5.00. **JE** E24, E31, E42, E52, E63. **KW** Macroeconomic Policy. Structural Reforms. Inflation. Unemployment.

AB This paper analyzes two-way interactions between structural reform and macro policy. If structural reforms increase the flexibility of labor markets, they are likely to improve the short-run inflation-unemployment tradeoff, providing an incentive for policymakers to expand aggregate demand. In turn, the promise by policymakers that they will encourage a decline in unemployment in response to good news on inflation can be used to strike a political deal with political interests opposed to the introduction or extension of structural reform. Expansionary monetary policy also provides relief on the fiscal front, directly by bringing the actual budget deficit closer to the structural budget deficit, and indirectly, by encouraging structural reform, potentially reducing the structural budget deficit itself. In 1992-93 several European countries dropped out of the ERM to pursue more expansionary monetary policies. This provides an important test case of the consequences of expansionary monetary policy.

Gordy, Michael B.

PD January 1997. **TI** Computationally Convenient Distributional Assumptions for Common Value Auctions. **AA** Board of Governors of the Federal Reserve System. **SR** Board of Governors of the Federal Reserve System, Finance and Economics Discussion Paper Series: 1997/05; Ms. Karen Blackwell, FEDS Secretary, Mail Stop 77, Federal Reserve Board, Washington, DC 20551. Website: www.bog.frb.fed.us/pubs/feds. **PG** 20. **PR** no charge. **JE** D44. **KW** Common Value Auctions. Bidding Strategy. Distribution Assumptions.

AB Although the mathematical foundations of common value auctions have been well understood since Milgrom & Weber (1982), equilibrium bidding strategies are computationally complex. Very few calculated examples can be found in the literature, and only for highly specialized cases. This paper introduces two sets of distributional assumptions that are flexible enough for theoretical and empirical applications and yet permit straightforward calculation of equilibrium bidding strategies.

Gorton, Gary

PD September 1996. **TI** Executive Compensation and the Optimality of Managerial Entrenchment. **AU** Gorton, Gary; Grundy, Bruce. **AA** Gorton: University of Pennsylvania and National Bureau of Economic Research. Grundy: University of Pennsylvania. **SR** National Bureau of Economic Research Working Paper: 5779; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. Website: www.nber.org. **PG** 45. **PR** $5.00. **JE** D82, J31, J33, J41. **KW** Compensation. Wages. Managerial Entrenchment. Contracts.

AB Firms are more complicated than standard principal-agent theory allows: firms have assets-in-place; firms endure through time, allowing for the possibility of replacing a shirking manager; firms have many managers, constraining the amount of equity that can be awarded to any one manager; and, a firm's owner can transfer some control to a manager, thereby entrenching her. Recognizing these characteristics, we solve the vesting dates; wage, equity and options components; and control rights of an optimal contract. Managerial entrenchment makes the promise of deferred compensation credible. Deferring compensation by delaying vesting reduces a manager's ability to free-ride on a replacement's effort.

Goto, Junichi

PD January 1996. **TI** The Impact of Migrant Workers on the Japanese Economy: Trickle vs. Flood. **AA** Yale University. **SR** Yale Economic Growth Center Discussion Paper: 749; Economic Growth Center, Publications Office, Yale University, P.O. Box 208269, New Haven, CT 06520-2869. Website: www.library.yale.edu/socsci/egcpage.html. **PG** 43. **PR** $2.00 plus postage. **JE** F13, F22, J61, O15, O53. **KW** International Migration. Japan. Immigration Policy. Nontraded Goods.

AB This paper analyzes the economic impact of temporary and unskilled migrant workers in Japan, who are illegal according to the current Japanese immigration law but who have been dramatically increasing in recent years. The analysis, using a simple CGE model, reveals the quadruple impact of the admission of migrant workers on the welfare of the host country which has often been neglected in the orthodox theory: (i) cheaper foreign labor effect; (ii) trade barrier effect, (iii) nontradable income effect; and (iv) nontradable consumption effect. Moreover, it is shown that, if Japan is to benefit from admitting foreign labor, the scale of admission should be large and the admission should be accompanied by trade liberalization.

TI Regional Economic Integration and Article XXIV of the GATT. **AU** Hamada, Koichi; Goto, Junichi.

Goulder, Lawrence

PD June 1996. **TI** Revenue-Raising vs. Other Approaches to Environmental Protection: The Critical Significance of Pre-Existing Tax Distortions. **AU** Goulder, Lawrence; Parry, Ian; Burtraw, Dallas. **AA** Goulder: Stanford University and National Bureau of Economic Research. Parry and Burtraw: Resources of the Future. **SR** National Bureau of Economic Research Working Paper: 5641; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. Website: www.nber.org. **PG** 24. **PR** $5.00. **JE** H21, H23, Q28. **KW** Quotas. Second-Best Theory. Environmental Protection. Externalities. Taxation.

AB This paper examines the choice between revenue-raising and non- revenue-raising instruments for environmental protection in a second- best setting with pre-existing factor taxes. The authors' find that interactions with pre-existing taxes fundamentally influence the costs of regulation and seriously militate against pollution abatement policies that do not raise revenue. Indeed, if the marginal environmental benefits from pollution reductions are below a certain threshold value, then any amount of pollution abatement through non- revenue-raising (NRR) policies like emissions quotas is efficiency-reducing. One cause of these findings, the tax-interaction effect, is the adverse impact in factor markets arising from reductions in after- tax returns associated with the higher production costs caused by environmental regulation. This effect leads to significantly higher efficiency costs than what would apply in a first-best world with no pre-existing taxes.

Green, David A.

PD January 1997. **TI** The Effect of the Minimum Wage on the Distribution of Teenage Wages. **AU** Green, David A.; Paarsch, Harry J. **AA** Green: University of British Columbia. Paarsch: University of Iowa. **SR** University of British Columbia, Department of Economics, Discussion Paper: 97/02; University of British Columbia, Department of Economics, #997-1873 East Mall, Vancouver, B.C. V6T 1Z1, Canada. Website: web.arts.ubc.ca/econ/. **PG** 44. **PR** **JE** J30, J31. **KW** Wage Distribution. Minimum Wages.

AB We estimate the effect of the minimum wage on the shape of the wage distribution using micro data from Canada in the 1980's. We estimate the minimum wage impact while controlling for the effects of covariates such as education and industry on the shape of the distribution function. We do this with an estimator that imposes a minimum of distributional assumptions. The use of Canadian data is important since there is a large amount of variation in the minimum wage in Canada in this period. We obtain estimates of the impact of minimum wages in reducing the probabilities of observing sub-minimum wages and increasing the probability of observing wages between the minimum and one dollar above the minimum and increase the probability of observing higher wages. We find no evidence of effects of the minimum wage on wages above the minimum for females.

TI Cohort Patterns in Canadian Earnings and the Skill-Biased Technical Change Hypothesis. **AU** Beaudry, Paul; Green, David A.

Greenstein, Shane

PD September 1996. **TI** Estimating the Welfare Effects of Digital Infrastructure. **AU** Greenstein, Shane; Spiller, Pablo. **AA** Greenstein: University of Illinois, Urbana/Champaign and National Bureau of Economic Research. Spiller: University of California, Berkeley. **SR** National Bureau of Economic Research Working Paper: 5770; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. Website: www.nber.org. **PG** 30. **PR** $5.00. **JE** L96, L98. **KW** Investment. Infrastructure. Telecommunications.

AB While much economic policy presumes that more information infrastructure yields higher economic returns, little empirical work measures the magnitude of these returns. The authors examine investment by local exchange telephone companies in fiber optic cable, ISDN lines and signal seven software, infrastructure which plays an essential role in bringing digital technology to local telephone networks. They estimate the elasticity of the derived demand for infrastructure investment faced by local exchange companies, controlling for factors such as local economic activity and the political disposition of state regulators. Their model postulates a regulated profit maximizing local exchange firm and a regulatory agency with predetermined political leanings in favor of consumer prices or firm profits. The model accounts for variation in state regulation and local economic conditions. In all the estimates the authors find that consumer demand is sensitive to investment in modern infrastructure, particularly as represented by fiber optic cable.

Gropp, Reint

PD July 1996. **TI** Personal Bankruptcy and Credit Supply and Demand. **AU** Gropp, Reint; Scholz, John Karl; White, Michelle. **AA** Gropp: International Monetary Fund. Scholz: University of Wisconsin- Madison and National Bureau of Economic Research. White: University of Michigan. **SR** National Bureau of Economic Research Working Paper: 5653; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. Website: www.nber.org. **PG** 24. **PR** $5.00. **JE** D12, D31, E51, G21, H20. **KW** Bankruptcy Exemptions. Finance. Redistribution. Credit.

AB This paper examines how personal bankruptcy and bankruptcy exemptions affect the supply and demand for credit. While generous state-level bankruptcy exemptions are probably viewed by most policymakers as benefiting less-well-off borrowers, our results using data from the 1983 Survey of Consumer Finances suggest they increase the amount of credit held by high-asset households and reduce the availability and amount of credit to low-asset households, conditioning on observable characteristics. We also find evidence that interest rates on automobile loans for low-asset households are higher in high exemption states. Thus, bankruptcy exemptions redistribute credit toward borrowers with high assets.

Grossman, Herschel I.

PD August 1996. **TI** Inequality, Predation and Welfare. **AU** Grossman, Herschel I.; Kim, Minseong. **AA** Grossman: Brown University and National Bureau of Economic Research. Kim: University of Pittsburgh.

SR National Bureau of Economic Research Working Paper: 5704; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. Website: www.nber.org. **PG** 22. **PR** $5.00. **JE** D51, D61, D63. **KW** Inequality. Predation. Welfare. General Equilibrium. Capital Distribution.
AB This paper studies the relation between inequality and welfare in a general- equilibrium model in which people can choose to be either producers or predators. The authors assume that some people (the privileged) are well endowed with human capital and other people (the unprivileged) are poorly endowed. They analyze how the choice of the privileged between deterring and tolerating predation by the unprivileged depends on the interpersonal distribution of human capital. They find that, if there are many unprivileged but the relative human capital ratio is narrow, then the privileged allocate enough time and effort to guarding against predation. Otherwise, the privileged tolerate predation. Next, the authors partition the feasible distributions of human capital into Pareto efficient and Pareto inefficient distribution sets. They find that a large average endowment of human capital has the fully egalitarian distribution as Pareto inefficient. Instead, Pareto efficiency implies an unegalitarian distribution of human capital.

PD January 1997. **TI** Predation and Moral Decay. **AA** Brown University. **SR** Brown University, Department of Economics Working Paper: 97/03; Department of Economics, Brown University, Providence, RI 02912. **PG** 35. **PR** no charge. **JE** A13, D63, D74, J22. **KW** Predation. Morality. Moral Decay. Moral Revival. Pareto Ranking.
AB This paper extends the framework of general economic equilibrium by allowing people to choose whether to be producers or predators. We analyze both the determination of the ratio of predators to producers within a generation as well as the evolution of the ratio of predators to producers over generations. Our analysis assumes that some people, whom we denote as "moral", always choose to be producers, whereas other people,. who, we denote as "amoral", choose to be either producers or predators depending on whether production or predation yields higher consumption. To determine the ratio of predators to producers within a generation we focus on the interaction between the choice of amoral people to be producers or predators and the choice of producers of the fraction of their resources to allocate to guarding against predation. We find that, with either individual choice or collective choice of the fraction of resources allocated to guarding against predation, as long as the ratio of amoral people to moral people is not too large, all of the amoral people choose to be predators, and amoral people to moral people were sufficiently large, then collective choice of the fraction of resources allocated to guarding against predation, by allowing predation to be deterred, would increase the consumption of moral people.

PD February 1997. **TI** Wherefore a Prudent Fiscal Policy? **AA** Brown University. **SR** Brown University, Department of Economics Working Paper: 97/05; Department of Economics, Brown University, Providence, RI 02912. **PG** 13. **PR** no charge. **JE** H62, H63. **KW** Fiscal Policy. Public Debt. Budget Deficit.
AB Although the traditional rationale for limiting the size of the public debt, based on cycles of war and peace and of depression and prosperity, probably has lost much of its relevance, this essay argues that the United States continues to pursue a prudent fiscal policy. The American public apparently understands that unless fiscal policy limits the growth of the public debt the government's credit will run out at some unpredictable future time. The public also apparently understands that were the government to exhaust its credit the consequent fiscal adjustments would be both drastic and painful. The alarmist tone of the ongoing discussion about budget deficits and the public debt reflects, and also reinforces, the public's perceptions about the dangers of fiscal imprudence.

PD March 1997. **TI** Sovereign Debt and Consumption Smoothing. **AA** Brown University. **SR** Brown University, Department of Economics Working Paper: 97/06; Department of Economics, Brown University, Providence, RI 02912. **PG** 10. **PR** no charge. **JE** F34, H63. **KW** Sovereign Debt. Consumption Smoothing. Contingent Debt.
AB This paper shows that whether or not a sovereign can borrow to smooth consumption depends both on how consumption smoothing is achieved, whether by contingent debt issuance or by contingent debt servicing, and on the exact nature of the penalty for debt repudiation. If a sovereign that repudiated its debt could not borrow again, but could continue to save and dissave, then contingent debt issuance, without contingent debt servicing, cannot support a positive amount of uncollateralized sovereign debt. But, under this same specification of the penalty for repudiation, contingent debt servicing supports a positive amount of uncollateralized sovereign debt.

Grossman, Michael

PD August 1996. **TI** The Demand for Cocaine by Young Adults: A Rational Addiction Approach. **AU** Grossman, Michael; Chaloupka, Frank; Brown, Charles. **AA** Grossman: City University of New York Graduate School and National Bureau of Economic Research. Chaloupka: University of Illinois and National Bureau of Economic Research. Brown: University of Michigan and National Bureau of Economic Research. **SR** National Bureau of Economic Research Working Paper: 5713; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. Website: www.nber.org. **PG** 34. **PR** $5.00. **JE** D12, D91. **KW** Rational Addiction. Cocaine. Addictive Behavior. Consumption.
AB This paper applies the rational addiction model, which emphasizes the interdependency of past, current, and future consumption of an addictive good, to the demand for cocaine by young adults in the Monitoring the Future Panel. The price of cocaine is added to this survey. Results suggest that annual participation and frequency of use given participation are negatively related to the price of cocaine. In addition current participation is positively related to past and future participation, and current frequency of use given participation is positively related to past and future frequency of use. The long-run elasticity of total consumption of -1.18 is substantial. A permanent 10 percent reduction in price due, for example, to the legalization of cocaine would cause the number of cocaine users to grow by slightly more than 8 percent and would increase the frequency of use among users by a little more than 3 percent.

TI Price, Tobacco Control Policies and Youth Smoking. **AU** Chaloupka, Frank; Grossman, Michael.

Gruber, Jonathan

PD September 1996. **TI** Cash Welfare as a Consumption Smoothing Mechanism for Single Mothers. **AA** Massachusetts Institute of Technology and National Bureau of Economic Research. **SR** National Bureau of Economic Research Working Paper: 5738; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. Website: www.nber.org. **PG** 32. **PR** \$5.00. **JE** H53, I12, I38, J12, J13. **KW** Welfare. AFDC. Consumption Insurance. Single Mothers.

AB While there has been considerable research on the disincentive effects of cash welfare under the Aid of Families with Dependent Children (AFDC) program, there is little evidence on the benefits of the program. One potential benefit of this program is that it provides short-run consumption insurance for women at the point that they become single mothers. This is only true, however, to the extent that the program is not crowding out other sources of support. The author assesses the importance of this insurance mechanism by measuring the extent to which AFDC smoothes the consumption of women who transition to single motherhood. The author finds that raising potential benefits by one dollar raises the food and housing consumption of all women who become single mothers by 30 cents. This estimate implies that for each dollar AFDC received by this population their consumption rises by up to 95 cents.

Grundy, Bruce

TI Executive Compensation and the Optimality of Managerial Entrenchment. **AU** Gorton, Gary; Grundy, Bruce.

Guinnane, Timothy W.

PD October 1995. **TI** Diversification, Liquidity, and Supervision for Small Financial Institutions: Nineteenth-Century German Credit Cooperatives. **AA** Yale University. **SR** Yale Economic Growth Center Discussion Paper: 733; Economic Growth Center, Publications Office, Yale University, P.O. Box 208269, New Haven, CT 06520-2869. Website: www.library.yale.edu/socsci/egcpage.html. **PG** 73. **PR** \$2.00 plus postage. **JE** E51, G23, N23. **KW** Rural Credit. Cooperatives. Financial Intermediation. Auditing. Germany.

AB Germany's successful nineteenth-century credit cooperatives were by design small, limited their operations to specific geographical areas, and employed few paid staff. Cooperatives would seem vulnerable to liquidity problems caused by correlated shocks to their member's fortunes. They would also seem vulnerable to fraud and mismanagement, and to have problems convincing the public they were safe places to invest money. The historical record shows, however, that the cooperatives overcame these problems, growing steadily in numbers and assets. The solution had little to do with government regulation. Rather, the cooperatives devised a series of regional banks and auditing associations to which most cooperatives eventually belonged. To obtain the benefits of membership in these organizations a cooperative had to submit to discipline imposed by the auditing association. The importance and vigilance of the Centrals and auditing associations was heightened because of a struggle between cooperatives that left competing "name brands" of credit cooperatives.

Gunther, Todd A.

TI Evaluating Density Forecasts. **AU** Diebold, Francis X.; *Gunther, Todd A.*; Tay, Anthony S.

Gyourko, Joseph

PD September 1997. **TI** Does the US Tax Treatment of Housing Promote Suburbanization and Central City Decline? **AU** Gyourko, Joseph; Voith, Richard. **AA** Gyourko: University of Pennsylvania. Voith: Federal Reserve Bank of Philidelphia. **SR** Federal Reserve Bank of Philadelphia Research Working Paper: 97/13; Working Papers, Department of Research, Federal Reserve Bank of Philadelphia, 101 Independence Mall, Philadelphia, PA 19106. Website: www.phil.frb.org/econ/index.html. **PG** 48. **PR** no charge except overseas airmail, \$3.00; checks/money orders in U.S. funds payable to Federal Reserve Bank of Philadelphia. **JE** H71, R32, R58. **KW** Tax Treatment. Housing Tax. Suburbanization.

AB This paper examines the role of U.S. housing-related tax expenditures in creating incentives for decentralization and encouraging residential sorting by income and central city decline. Tax expenditures associated with the deductibility of mortgage interest and property taxes make housing less expensive relative to other goods and, hence, increase the quantity of housing and residential land purchased and lower the density of urban areas. Because the tax expenditures increase with income and consumption of housing services, they lower the cost of geographic sorting by income typically associated with exclusionary zoning and other land-market imperfections. A direct consequence of this sorting process is that housing-related tax expenditures are concentrated on communities with the highest incomes and house values. These effects do not arise simply because of housing-tax policies alone, but rather from the interaction of these policies and other factors that affect local real estate markets, such as zoning or fixed housing capital stocks. Three models are developed to formally analyze these issues.

Hahn, Martin

TI Management Competence, Firm Growth and Economic Progress. **AU** Ghoshal, Sumantra; Hahn, Martin; Moran, Peter.

Hajivassiliou, Vassilis A.

PD March 1997. **TI** Testing Game-Theoretic Models of Price Fixing Behavior. **AA** London School of Economics. **SR** STICERD, London School of Economics Discussion Papers Series: EM/97/324; STICERD, Room R.415, London School of Economics and Political Science, Houghton Street, London WC2A 2AE, UK. **PG** 34. **PR** no charge. **JE** C15, C51, C52, C72, L12. **KW** Price Fixing. Trigger Price. Switching Models. Measurement Errors. Simulation Estimation.

AB This paper analyzes price fixing by the Joint Executive Committee railroad cartel from 1880 to 1886 and develops tests of two game- theoretic models of tacit collusion. The first model, by Abreu, Pearce and Stacchetti (1986), predicts that price will switch across regimes according to a Markov process. The second model, by Rotemberg and Saloner (1986), concludes that price wars are more likely in periods of high industry demand. Switching regressions are used to model the firms' shifting between collusive and punishment behavior. The main econometric novelty introduced in this paper is that misclassification probabilities are allowed to vary endogenously over time. The JEC data set is expanded to include measures of grain production to be shipped and availability of substitute transportation services. The findings cast doubt on the applicability of the Rotemberg and Saloner model to the JEC railroad cartel, while they confirm the Markovian prediction of Abreu et al.

PD May 1997. **TI** The Method of Simulated Scores for the Estimation of LDV Models. **AU** Hajivassiliou, Vassilis A.; McFadden, Daniel L. **AA** Hajivassiliou: London School of Economics. McFadden: University of California, Berkeley. **SR** STICERD, London School of Economics Discussion Papers Series: EM/97/328; STICERD, Room R.415, London School of Economics and Political Science, Houghton Street, London WC2A 2AE, UK. **PG** 38. **PR** no charge. **JE** C15, C51. **KW** Limited Dependent Variable. Simulation Estimation. Gibbs Resampling.

AB The method of simulated scores (MSS) is presented for estimating limited dependent variables models (LDV) with flexible correlation structure in the unobservables. We propose simulators that are continuous in the unknown parameter vectors, and hence standard optimization methods can be used to compute the MSS estimators that employ these simulators. The first continuous method relies on a recursive conditioning of the multivariate normal density through a Cholesky triangularization of its variance-covariance matrix. The second method combines results about the conditionals of the multivariate normal distribution with Gibbs resampling techniques. We establish consistency and asymptotic normality of the MSS estimators and derive suitable rates at which the number of simulations must rise if biased simulators are used.

PD November 1997. **TI** Some Practical Issues in Maximum Simulated Likelihood. **AA** London School of Economics. **SR** STICERD, London School of Economics Discussion Papers Series: EM/97/340; STICERD, Room R.415, London School of Economics and Political Science, Houghton Street, London WC2A 2AE, UK. **PG** 38. **PR** no charge. **JE** C15. **KW** Simulation Estimation. Maximum Likelihood. Limited Dependent Variable. Antithetic Acceleration.

AB In this paper, I explore ways of recapturing the efficiency property for estimators that rely on simulation. In particular, I show that this can be achieved by exploiting two-step maximum simulated likelihood (SL) estimation methods that are familiar from classical applications. I also construct a diagnostic test for adequacy of number of simulations employed to guarantee negligible bias for the MSL and provide some evidence on the computational requirements of the Geweke-Hajivassiliou- Keane (GHK) simulator as a function of (a) the dimension of the problem and (b) the number of simulations employed in a vectorized context. I outline how one can derive a similar approach for checking adequacy of the number of Gibbs resamplings in simulation estimation methods that employ this technique.

Haltiwanger, John

TI Technology and Jobs: Secular Changes and Cyclical Dynamics. **AU** Dunne, Timothy; Haltiwanger, John; Troske, Kenneth.

TI Driving Forces and Employment Fluctuations. **AU** Davis, Steven; Haltiwanger, John.

Hamada, Koichi

PD December 1995. **TI** The Structure of Arms Races Before and After the End of the Cold War: From Strategic Substitutes to Strategic Complements. **AA** Yale University. **SR** Yale Economic Growth Center Discussion Paper: 753; Economic Growth Center, Publications Office, Yale University, P.O. Box 208269, New Haven, CT 06520-2869. Website: www.library.yale.edu/socsci/egcpage.html. **PG** 25. **PR** $2.00 plus postage. **JE** D71, D74, H56. **KW** Arms Races. Collective Action. Strategic Complements. Strategic Substitutes. Country Sizes.

AB This paper applies the theory of collective action to the arms race. The analytical property of strategic interdependence has completely changed since the end of the cold war. In the presence of the "evil empire," the allies' strategic structure was "strategic substitutes;" the strategic structure after the cold war was "strategic complements." During the cold war, defense was a public good, and the small countries had a tendency to exploit the large. In the period after the cold war, defense has become a public bad, and the large country tends to exploit the small.

PD February 1996. **TI** Regional Economic Integration and Article XXIV of the GATT. **AU** Hamada, Koichi; Goto, Junichi. **AA** Hamada: Yale University. Goto: Kobe University. **SR** Yale Economic Growth Center Discussion Paper: 754; Economic Growth Center, Publications Office, Yale University, P.O. Box 208269, New Haven, CT 06520-2869. Website: www.library.yale.edu/socsci/egcpage.html. **PG** 45. **PR** $2.00 plus postage. **JE** F12, F13, F15. **KW** Free Trade Area. Regional Integration. Imperfect Competition. European Union. NAFTA.

AB This paper analyzes the impact of various configurations of regional economic integration on member countries and on outside countries under realistic assumptions. That is, the authors consider constant external tariffs as required by Article XXIV of the GATT and the asymmetric formation of the Free Trade Area (FTA) where some countries form a FTA while others are left behind. The authors show that economic integration definitely worsens the welfare of the countries that are left behind even if the external tariffs of the FTA remain unraised. Simulation results clarify the incentive structure of major participants. The simulation suggests that the APEC may be a politically feasible configuration in the world because it substantially increases the welfare level of major participants. Moreover, world-wide free trade may be difficult to achieve, because completely free trade implies a reduction of the welfare level of the major players from variously configured, FTA-achievable levels.

PD May 1996. **TI** The Economic Consequences of a Declining Hegemon. **AA** Yale University. **SR** Yale Economic Growth Center Discussion Paper: 756; Economic Growth Center, Publications Office, Yale University, P.O. Box 208269, Yale Station, New Haven CT 06520-8269. Website: www.library.yale.edu/socsci/egcpage.html. **PG** 49. **PR** $2.00 plus postage. **JE** F12, F13, F15, F41, H87. **KW** Hegemonic Stability. International Trade. Public Goods. Strategic Complements.

AB The concept of hegemonic stability rests on the assumption that a leader country, or a hegemon, provides a sufficient amount of public goods and builds a proper infrastructure. This paper is an attempt to review the concepts of "international public goods" and "hegemony" from the standpoint of an economist. It focuses on the incentive structure that a large country as well as other countries faces in order to make a collective decision. It is misleading to treat many different situations in a single framework of "public goods" or "hegemony". The benefit-cost structure for nations in the trade liberalization process is different from that in the international monetary cooperation process. Specifically, where public goods are concerned, the small can exploit the large by taking advantage of free-riding positions; where the trade of private goods is concerned, the large countries can exploit the small with their monopoly power and trade restrictions.

Hammour, Mohamad

TI The Macroeconomics of Specificity. **AU** Caballero, Ricardo; Hammour, Mohamad.

Hanson, Gordon H.

TI Productivity Measurement and the Impact of Trade and Technology on Wages: Estimates for the U.S., 1972-1990. **AU** Feenstra, Robert C.; Hanson, Gordon H.

Harker, Patrick T.

TI Modeling a Phone Center: Analysis of a Multi-Channel Multi-Resource Processor Shared Loss System. **AU** Aksin, O. Zeynep; Harker, Patrick T.

TI To Sell or Not to Sell: Determining the Tradeoffs Between Service and Sales in Retail Banking Phone Centers. **AU** Aksin, O. Zeynep; Harker, Patrick T.

TI Computing Performance Measures in a Multi-Class Multi-Resource Processor-Shared Loss System. **AU** Aksin, O. Zeynep; Harker, Patrick T.

Harrigan, James

PD August 1996. **TI** Technology, Factor Supplies and International Specialization: Estimating the Neoclassical Model. **AA** Federal Reserve Bank of New York and National Bureau of Economic Research. **SR** National Bureau of Economic Research Working Paper: 5722; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. Website: www.nber.org. **PG** 26. **PR** $5.00. **JE** F11. **KW** International Trade. OECD. Neoclassical Model. Specialization.

AB The standard neoclassical model of trade theory predicts that international specialization will be jointly determined by cross-country differences in relative factor endowments and relative technology levels. This paper uses duality theory combined with a flexible functional form to specify an empirical model of specialization consistent with the neoclassical explanation. According to the empirical model, a sector's share in GDP depends on both relative factor supplies and relative technology differences. The model is estimated for manufacturing sectors using a 20 year, 10 country panel of data on the OECD countries. Hicks-neutral technology differences are measured using an application of the theory of total factor productivity comparisons, and factor supplies are measured directly. The estimated model performs well in explaining variation in production across countries and over time, and the estimated parameters are generally in line with theory and previous empirical work on the factor proportions model.

Harrison, Sharon G.

TI Chaos, Sunspots, and Automatic Stabilizers. **AU** Christiano, Lawrence J.; Harrison, Sharon G.

Hart, Oliver

PD September 1996. **TI** The Proper Scope of Government: Theory and an Application to Prisons. **AU** Hart, Oliver; Shleifer, Andrei; Vishny, Robert. **AA** Hart and Shleifer: Harvard University and National Bureau of Economic Research. Vishny: University of Chicago and National Bureau of Economic Research. **SR** National Bureau of Economic Research Working Paper: 5744; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. Website: www.nber.org. **PG** 50. **PR** $5.00. **JE** L32, L33. **KW** Prisons. Privatization. Contracting Out. Public Enterprise.

AB When should a government provide a service inhouse and when should it contract out provision? We develop a model in which the provider can invest in improving the quality of service or reducing cost. If contracts are incomplete, the private provider has a stronger incentive to engage in both quality improvement and cost reduction than a government employee. However, the private contractor's incentive to engage in cost reduction is typically too strong because he ignores the adverse effect on non- contractible quality. The model is applied to understanding the costs and benefits of prison privatization.

PD January 1997. **TI** Default and Renegotiation: A Dynamic Model of Debt. **AU** Hart, Oliver; Moore, John. **AA** Hart: Harvard University. Moore: London School of Economics and Heriot-Watt University. **SR** STICERD, London School of Economics Discussion Papers Series: TE/97/321; STICERD, Room R.415, London School of Economics and Political Science, Houghton Street, London WC2A 2AE, UK. **PG** 62. **PR** no charge. **JE** G32, G33, G35. **KW** Debt. Default. Renegotiation.

AB We analyze the role of debt in persuading an entrepreneur to pay out cash flows, rather than to divert them. In the first part of the paper we study the optimal debt contract -- specifically, the trade-off between the size of the loan and the repayment -- under the assumption that some debt contract is optimal. In the second part we consider a more general class of (non-debt) contracts, and derive sufficient conditions for debt to be optimal among these.

Harvey, Andrew

PD April 1997. **TI** Messy Time Series: A Unified Approach. **AU** Harvey, Andrew; Koopman, Siem Jan. **AA** Harvey: University of Cambridge. Koopman: London School of Economics. **SR** STICERD, London School of Economics Discussion Papers Series: EM/97/327; STICERD, Room R.415, London School of Economics and Political Science, Houghton Street, London WC2A 2AE, UK. **PG** 68. **PR** no charge. **JE** C22. **KW** ARIMA Models. Data Aggregation. Importance Sampling. Kalman Filter. Splines.

AB Many series are subject to data irregularities such as missing values, outliers, structural breaks and irregular spacing. Data can also be messy, and hence difficult to handle by standard procedures, when they are intrinsically non-Gaussian or contain complicated periodic patterns because they are observed on an hourly or weekly basis. This paper presents a unified approach to the analysis of messy data. The technical treatment is based on state space methods. These methods can be applied to any linear model including those from the autoregressive integrated moving average class. However, the ease of interpretation of structural time series models, together with the associated information produced by the Kalman filter and smoother, makes them a more natural vehicle for dealing with messy data. Structural time series models can also be formulated in continuous time thereby allowing for a general treatment of irregularly spaced observations.

Hassett, Kevin A.

PD July 1996. **TI** Tax Policy and Investment. **AU** Hassett, Kevin A.; Hubbard, R. Glenn. **AA** Hassett: Board of Governors of the Federal Reserve System. Hubbard: Columbia University and National Bureau of Economic Research. **SR** National Bureau of Economic Research Working Paper: 5683; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. Website: www.nber.org. **PG** 46. **PR** $5.00. **JE** E22, G31, G38, H25, H32. **KW** Tax Policy. Investment. Firm Behavior.

AB In this paper, we summarize recent advances in the study of effects of tax policy on the fixed investment decisions of firms. We attempt to identify consensus where it has been achieved and to highlight important unresolved issues. In addition, we discuss the implications of recent findings for the analysis of policy options, and discuss arguments for and against long-run tax policy that favors business investment spending.

Haurin, Donald

PD June 1996. **TI** Expected Home Ownership and Real Wealth Accumulation of Youth. **AU** Haurin, Donald; Hendershott, Patrick; Wachter, Susan. **AA** Haurin: Ohio State University. Hendershott: Ohio State University and National Bureau of Economic Research. Wachter: University of Pennsylvania. **SR** National Bureau of Economic Research Working Paper: 5629; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. Website: www.nber.org. **PG** 18. **PR** $5.00. **JE** D31, E21, E31, J11, R31. **KW** Housing Prices. Wealth Accumulation.

AB This paper describes the real wealth accumulation of American youth and relates this behavior to variations in real constant-quality house prices in their localities of residence. We argue that increases in the real constant-quality house price have two offsetting effects on wealth. First, the greater the local constant-quality price of housing, the greater the wealth needed to meet the lender-imposed down payment constraint if housing demand is price inelastic. However, increased real constant-quality house price reduces the likelihood of home ownership and thus the desire to accumulate wealth needed for a down payment. Using a panel data set for youth age 20-33 for the years 1985 through 1990 we find that the combined direct and indirect impact of variations in real constant-quality house price on wealth is modest for changes near the average real house price, but youths' wealth declines substantially in areas with high real house price.

PD June 1996. **TI** Borrowing Constraints and the Tenure Choice of Young Households. **AU** Haurin, Donald; Hendershott, Patrick; Wachter, Susan. **AA** Haurin: Ohio State University. Hendershott: Ohio State University and National Bureau of Economic Research. Wachter: University of Pennsylvania. **SR** National Bureau of Economic Research Working Paper: 5630; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. Website: www.nber.org. **PG** 19. **PR** $5.00. **JE** D31, J11, J31, R21. **KW** Borrowing Constraints. Tenure Choice. Mortgages. Housing Market.

AB This paper analyzes the factors that affect the tenure choice of young adults, highlighting the impact of mortgage lender imposed borrowing constraints. The methods differ from most prior studies in many ways including consideration of possible sample selection bias, a richer model of the stochastic error structure, better measurement of which households are bound by borrowing constraints, and a fuller consideration of the endogeneity of wealth and income. Once all changes are implemented, ownership tendencies are found to be quite sensitive to economic variables. Specifically, potential earnings, the relative cost of owning a home, and especially borrowing constraints affect the tendency to own a home. Thirty-seven percent of households are constrained even after choosing their loan-to-value ratio to minimize the impact of the separate wealth and income requirements.

Hawawini, Gabriel

PD May 1997. **TI** The Cross Section of Common Stock Returns: A Reveiw of the Evidence and Some New Findings. **AU** Hawawini, Gabriel; Keim, Donald B. **AA** Hawawini: INSEAD. Keim: University of Pennsylvania. **SR** INSEAD Working Papers: 97/66/FIN; INSEAD, Research and Development Department, Boulevard de Constance, 77305 Fontainebleau Cedex, France. Website; www.insead.fr/Research. **PG** 40. **PR** no charge up to five copies, after five copies 18FF per working paper plus postage and VAT. **JE** G12, G13. **KW** Risk Premium. Stock Returns. CAPM. Equity Markets. Beta Risk.

AB A large body of evidence has accumulated that collectively suggests that betas do not adequately explain cross-sectional differences in average stock returns. Instead, several variables that have no basis in theory seem to have significant explanatory power. In addition, many papers have attempted to explain these findings. In this paper the authors provide a synthesis of the evidence and explanations. One interpretation is that the beta-adjusted excess returns represent evidence that a multidimensional model of risk and return is necessary to explain the cross section of stock returns. That is, beta by itself is insufficient to characterize the risks of common stocks. The authors' findings suggest that such conclusions may be premature. However, a significant contribution of this line of research is that it has sharpened the focus on potential alternative sources of risk, and future theoretical work should certainly benefit.

Heckman, James J.

TI Measuring the Effects of Cognitive Ability. **AU** Cawley, John; Conneely, Karen; Heckman, James J.; Vytlacil, Edward.

PD October 1996. **TI** Linear Probability of the Demand for Attributes with an Empirical Application to Estimating the Preferences of Legislators. **AU** Heckman, James J.; Snyder, James M. **AA** Heckman: University of Chicago and National Bureau of Economic Research. Snyder: Massachusetts Institute of Technology. **SR** National Bureau of Economic Research Working Paper: 5785; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. Website: www.nber.org. **PG** not available. **PR** $5.00. **JE** D72. **KW** Congressional Voting. Binary Choice. Unobserved Attributes. Linear Probability.

AB This paper formulates and estimates a rigorously justified linear probability model of binary choices over alternatives characterized by unobserved attributes. The model is applied to estimate preferences of congressmen as expressed in their votes on bills. The effective dimension of the attribute space characterizing votes is larger than what has been estimated in recent influential studies of congressional voting by Poole and Rosenthal. Congressman vote on more than ideology. Issue-specific attributes are an important determinant of congressional voting patterns. The estimated dimension is too large for the median voter model to describe congressional voting.

Hellerstein, Judith

PD June 1996. **TI** Wages, Productivity, and Worker Characteristics: Evidence from Plant- Level Production Functions and Wage Equations. **AU** Hellerstein, Judith; Neumark, David; Troske, Kenneth. **AA** Hellerstein: Northwestern University and National Bureau of Economic Research. Neumark: Michigan State University and National Bureau of Economic Research. Troske: U. S. Census Bureau. **SR** National Bureau of Economic Research Working Paper: 5626; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. Website: www.nber.org. **PG** 37. **PR** $5.00. **JE** E24, J31. **KW** Wages. Wage Discrimination. Relative Wages.

AB This paper uses a unique new data set that combines individual workers data with data on workers' employers to estimate plant-level production functions and wage productions, and thus to compare relative marginal products and relative wages for various groups of workers. The data and empirical framework lead to new evidence on numerous questions regarding the determination of wages, questions that hinge on the relationship between wages and marginal products of workers in different demographic groups. These include race and sex discrimination in wages, the causes of rising wages over the life cycle, and the returns to marriage.

Helpman, Elhanan

TI R&D Spillovers and Global Growth. **AU** Bayoumi, Tamim; Coe, David; Helpman, Elhanan.

PD September 1996. **TI** Diffusion of General Purpose Technologies. **AU** Helpman, Elhanan; Trajtenberg, Manuel. **AA** Tel Aviv University and National Bureau of Economic Research. **SR** National Bureau of Economic Research Working Paper: 5773; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. Website: www.nber.org. **PG** 36. **PR** $5.00. **JE** O14, O31, O33, O41. **KW** Growth. Technological Diffusion.

AB History and theory alike suggest that General Purpose Technologies (GPT's), such as the steam engine or electricity, may play a key role in economic growth. In a previous paper the authors incorporated this notion into a Grossman-Helpman growth model, and explored the economy-wide dynamics that a GPT generates. The present paper deals with the diffusion of the GPT over heterogeneous final-good sectors. The authors show that the gradual adoption of the GPT by each user sector generates a sequence of two- phased cycles, culminating in a "second wave:" after all sectors adopt, they engage anew in R&D, bringing about a spell of sustained growth. They also analyze the welfare implications of the order of adoption, by way of numerical simulations. As a "reality check," they sketch the early diffusion of the transistor, and seek to characterized both the early adopters and the laggards in terms of the parameters of the model.

Hendershott, Patrick

TI Expected Home Ownership and Real Wealth Accumulation of Youth. **AU** Haurin, Donald; Hendershott, Patrick; Wachter, Susan.

TI Borrowing Constraints and the Tenure Choice of Young Households. **AU** Haurin, Donald; Hendershott, Patrick; Wachter, Susan.

Henderson, Vernon

TI Urban Growth. **AU** Black, Duncan Bland; Henderson, Vernon.

Hendricks, Ken

PD June 1997. **TI** Equilibria in Networks. **AU** Hendricks, Ken; Piccione, Michele; Tan, Guofu. **AA** University of British Columbia. **SR** University of British Columbia, Department of Economics, Discussion Paper: 97/17; Department of Economics, University of British Columbia, #997-1873 East Mall, Vancouver, B.C. V6T 1Z1. Website: web.arts.ubc.ca/econ. **PG** 61. **PR** **JE** L10. **KW** Networks. Hub-Spoke. Duopoly.

AB We study a model in which two carriers choose networks to connect cities and compete for travelling customers. We show that if carriers compete aggressively (e.g., Bertrand-like behavior), one carrier operating a single hub-spoke network is an equilibrium outcome. Competing hub-spoke networks are not an equilibrium outcome, although duopoly equilibria in non-hub networks can exist. If carriers do not compete aggressively, a duopoly equilibrium in hub-spoke networks exists if the number of cities is not small. We provide conditions under which all equilibria consist of hub-spoke networks.

Hidalgo, J.

TI Time Series Regression with Long Range Dependencies. **AU** Robinson, Peter M.; Hidalgo, J.

Higuchi, Yoshio

TI Maternity Leave Policies and Women's Employment After Childbirth: Evidence from the United States, Britain and Japan. **AU** Waldfogel, Jane; Higuchi, Yoshio; Abe, Masahiro.

Hills, John

TI Exclusion, Employment and Opportunity. **AU** Atkinson, A. B.; Hills, John.

Hines, James Jr.

TI "Basket" Cases: International Joint Ventures After the Tax Reform Act of 1986. **AU** Desai, Mihir; Hines, James Jr..

Holmes, Jessica

TI Tetanus, Death and Aerobics: The Evaluation of Disease-Specific Public Health Interventions. **AU** Sala-i-Martin, Xavier; Dow, William H.; Holmes, Jessica; Philipson, Tomas.

TI Tetanus, Death and Aerobics: The Evaluation of Disease-Specific Public Health Interventions. **AU** Sala-i-Martin, Xavier; Dow, William H.; Holmes, Jessica; Philipson, Tomas.

Holtz-Eakin, Douglas

TI Financial Capital, Human Capital, and the Transition to

Self- Employment: Evidence from Intergenerational Links. **AU** Dunn, Thomas; Holtz-Eakin, Douglas.

Holzer, Harry J.

TI Demand Shifts, Population Adjustments, and Labor Market Outcomes During the 1980s. **AU** Bound, John; Holzer, Harry J.

Honkapohja, Seppo

TI Growth Cycles. **AU** Evans, George; Honkapohja, Seppo; Romer, Paul.

Hovakimina, Armen

PD August 1996. **TI** Risk-Shifting by Federally Insured Commercial Banks. **AU** Hovakimina, Armen; Kane, Edward. **AA** Hovakimina: Boston College. Kane: Boston College and National Bureau of Economic Research. **SR** National Bureau of Economic Research Working Paper: 5711; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. Website: www.nber.org. **PG** 17. **PR** $5.00. **JE** G21, G28. **KW** Commercial Banks. Risk Shifting. Deposit Insurance.

AB Mispriced and misadministered deposit insurance imparts risk-shifting incentives to U.S. banks. Regulators are expected to monitor and discipline increases in bank risk exposure that would transfer wealth from the FDIC to bank stockholders. This paper assesses the success regulators had in controlling risk-shifting by U.S. banks during 1985-1994. In contrast to the single-equation estimates developed from the option model by others, the authors' simultaneous-equation evidence indicates that regulators failed to prevent large U.S. banks from shifting risk to the FDIC. Moreover, at the margin, banks that are undercapitalized shifted risk more effectively than other sample banks.

Hoynes, Hilary Williamson

PD June 1996. **TI** Local Labor Markets and Welfare Spells: Do Demand Conditions Matter? **AA** University of California, Berkeley and National Bureau of Economic Research. **SR** National Bureau of Economic Research Working Paper: 5643; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. Website: www.nber.org. **PG** 31. **PR** $5.00. **JE** E24, H53, I38, J10, J31. **KW** Labor Markets. Welfare. Labor Demand. Hazard Rate. Employment.

AB This paper examines the role of local labor markets in determining how long families receive benefits from the Aid to Families with Dependent Children (AFDC) program. Given the current policy emphasis on devolution and reducing the AFDC caseload through employment, understanding the role of local labor demand is important. The study uses a unique data set based on administrative data which has detailed information on welfare spells for over 100,000 AFDC cases. The empirical work is based on estimates of a duration model where the hazard rate is a function of demographic characteristics, local labor market variables, neighborhood characteristics, county fixed effects and time effects. Several alternative measures of local labor market conditions are used and the results show that higher unemployment rates, lower employment growth, lower employment to population ratios, and lower wage growth are associated with longer welfare spells.

PD June 1996. **TI** Work, Welfare, and Family Structure: What Have We Learned? **AA** University of California, Berkeley and National Bureau of Economic Research. **SR** National Bureau of Economic Research Working Paper: 5644; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. Website: www.nber.org. **PG** 36. **PR** $5.00. **JE** H53, I38, J12, J13. **KW** Welfare Reform. Work Incentives. Marriage. Tax Rates.

AB Welfare reform has once again made its way to the top of the domestic policy agenda. While part of the motivation behind current reform efforts is fiscally driven, there is also an interest in making significant changes that address two prominent criticisms of the existing system of public assistance programs in the United States. First, the system has significant, adverse work incentives. Second, the system discourages the formation of two-parent families and is responsible in part for the high rates of female headship and out-of- wedlock birth rates. This paper explores the validity of these criticisms and, in turn, evaluates the impact of various reforms to the system. The paper concludes that current reforms aimed at reducing female headship and out-of-wedlock births are unlikely to generate large effects. Changes to implicit tax rates and benefit formulas may increase work among current recipients, but overall work effort may not be affected.

Hubbard, R. Glenn

TI Tax Policy and Investment. **AU** Hassett, Kevin A.; Hubbard, R. Glenn.

PD July 1996. **TI** Assessing the Effectiveness of Saving Incentives. **AU** Hubbard, R. Glenn; Skinner, Jonathan S. **AA** Hubbard: Columbia University and National Bureau of Economic Research. Skinner: Dartmouth College and National Bureau of Economic Research. **SR** National Bureau of Economic Research Working Paper: 5686; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. Website: www.nber.org. **PG** 28. **PR** $5.00. **JE** D61, E21, E22, G23, H20. **KW** Saving. Cost Benefit. Capital Accumulation. IRA's. 401k's.

AB In this paper, we argue that there is more to be learned from recent research on the effectiveness of targeted saving incentives than is suggested by the wide variation in empirical estimates. First, we conclude that characterizations of "all new saving" or "no new saving" are extreme; IRA's and 401(k) plans appear to stimulate moderate amounts of new saving. Second, we suggest a cost-benefit approach to ask: What is the incremental gain in capital accumulation per dollar of foregone revenue? We find that for quite conservative measures of the saving impacts of IRA's or 401(k)'s, the incremental gains in capital accumulation per dollar of lost revenue are large.

Huberman, Bernardo A.

TI A Punctuated-Equilibrium Model of Technology Diffusion. **AU** Loch, Christoph H.; Huberman, Bernardo A.

Hubner, Georges

PD October 1996. **TI** The Pricing of Swaptions and Caps Under the Gaussian Model of Interest Rate. **AA** INSEAD and University of Liege, Belgium. **SR** INSEAD Working Papers: 97/22/FIN; Research and Development Department, Boulevard de Constance, 77305 Fontainebleau, France. Website: www.insead.fr/Research. **PG** 22. **PR** no charge up to five copies, after five copies 18FF per working paper plus postage and VAT. **JE** G12, G13. **KW** Swaptions. Options.

Asset Pricing. Interest Rates. Bonds.
AB In this paper, the author uses Jamshidian's approach to express the swaption, often priced as an interest rate option, as a bond option. He derives a simple closed-form solution for the swaption pricing formula. Modifications so as to fit the current term structure of the interest rate level and volatility are introduced. In addition, the sensitivity of this option, and bond options in general, with respect to the volatility of the interest rate is analyzed. Furthermore, the author outlines the difference between swaptions and caps, floors and collars. Adapting Longstaff's analysis to the Ornstein-Uhlenbeck process, he expresses these contracts as options on yields. This analysis outlines the misuse of the Black-Scholes model that consists of simply plugging the forward rate in the payoff function as an approximation.

PD January 1997. **TI** A Two-Factor Gaussian Model of Default Risk. **AA** INSEAD and University of Liege, Belgium. **SR** INSEAD Working Papers: 97/23/FIN; INSEAD, Research and Development Department, Boulevard de Constance, 77305 Fontainebleau, France. Website: www.insead.fr/Research. **PG** 84. **PR** no charge up to five copies, after five copies 18FF per working paper plus postage and VAT. **JE** G11, G12, G35. **KW** Default Risk. Equity. Corporate Bonds. Asset Value. Default Rate.
AB This paper presents a reduced-form model of default risk. The market value of the firm's assets, discounted by a comparable observable measure, is the state variable that affects both the arrival and the magnitude rates of default. This state variable is assumed to exhibit a mean-reverting behavior. If the loss in case of default leaves the investor with a fraction of his claim, corporate bonds can be priced in a two-factor Vasicek model. Under a simple capital structure, the subsequent analysis of equity shows that its rate of return may also show mean-reversion, whose intensity is linearly related to financial leverage. Alternatively, considering that the bondholder recovers a fraction of par or of a risk-free bond when the firm defaults leads to slightly more complex pricing formulas, but in the latter case one can factorize out the price of a riskless bond.

PD February 1997. **TI** The Analytic Pricing of Asymmetric Defaultable Swaps. **AA** INSEAD and University of Liege, Belgium. **SR** INSEAD Working Papers: 97/24/FIN; INSEAD, Research and Development Department, Boulevard de Constance, 77305 Fontainebleau, France. Website: www.insead.fr/Research. **PG** 52. **PR** no charge up to five copies, after five copies 18FF per working paper plus postage and VAT. **JE** G12, G13. **KW** Default. Swap Contracts. Credit Risk. Derivatives.
AB Among the set of derivatives, swaps represent a particularly challenging contract for pricing purposes because of the presence of two counterparties with their own credit risk characteristics and the particular settlement rule in case of default. This article focuses on the comparison of raw credit exposures for each party, which are the basis for market-to-market valuation before the occurrence of default itself is considered. With a two-factor Gaussian model for defaultable bond prices, this leads to fully analytical option-like pricing formulas for interest rate as well as currency swaps. In the latter case, the presence of an additional correlation risk is emphasized. Netting master agreements are shown to benefit to either counterparty depending on the importance of his credit risk exposure relative to market conditions in the contract value. Simulation results suggest that default risk is more critical for currency swaps, but far from negligible in interest rate swaps.

PD March 1997. **TI** Efficiency Versus Completeness: Strategic Use of Option Markets. **AA** INSEAD. **SR** INSEAD Working Papers: 97/49/FIN; INSEAD, Research and Development Department, Boulevard de Constance, 77305 Fontainebleau, France. Website: www.insead.fr/Research. **PG** 36. **PR** no charge up to five copies, after five copies 18FF per working paper plus postage and VAT. **JE** D82, G12, G13, G14, G30. **KW** Japan. Options. Contingent Pricing. Inefficient Markets. Market Synchronicity.
AB Through a simple model of stock and option pricing, this article shows the effects of introducing a special trader whose action triggers a change in the value of the stock. This market participant would be able to realize abnormal profits if the markets were inefficient or efficient but non-synchronous by trading options. If markets are efficient and synchronous, the strategic decision to exercise or not options at maturity yields arbitrage opportunities, and surprisingly leads to market incompleteness. Inefficient pricing rules are sufficient to prevent this behavior. A simplified pricing model for callable convertible bonds fits to this framework. Analysis of the U.S. market shows that it tends to be inefficient, but firms do not seem to fully exploit asymmetric information, so that market prices are coherent. In contrast, Japan exhibits characteristics of an efficient but non- synchronous market, which allows visible arbitrage opportunities that are very profitable to issuing firms.

Hughes, Joseph P.

PD July 1997. **TI** Recovering Risky Technologies Using the Almost Ideal Demand System: An Application to US Banking. **AU** Hughes, Joseph P.; Lang, William; Mester, Loretta J.; Moon, Choon - Geol. **AA** Hughes: Rutgers University. Lang: Office of the Comptroller of the Currency. Mester: Federal Reserve Bank of Philadelphia and University of Pennsylvania. Moon: Hanyang University. **SR** Federal Reserve Bank of Philadelphia Research Working Paper: 97/08; Working Papers, Department of Research, Federal Reserve Bank of Philadelphia, 101 Independence Mall, Philadelphia, PA 19106. Website: www.phil.frb.org/econ/index.html. **PG** 44. **PR** no charge except overseas airmail, $3.00; checks/money orders in U.S. funds payable to Federal Reserve Bank of Philadelphia. **JE** G21. **KW** Risky Technologies.
AB Using Modern duality theory to recover technologies from data can be complicated by the risk characteristics of production. In many industries, risk influences cost and revenue can create the potential for costly episodes of financial distress. When risk is an important consideration in production, the standard cost and profit functions may not adequately describe the firm's technology and choice of production plan. In general, exogenous risk, which varies over the firm's choice sets, and endogenous risk, which is chosen by the firm in conjunction with its production decision. We show that, when risk matters in production decisions, it is important to account for risk's endogeneity. For example, better risk diversification that results, e.g., from an increase in scale, improves the reward to risk taking and may under certain conditions induce the firm to take on more risk to increase the firm's value. A choice of higher risk at a larger scale could add to costs and mask scale economies that may result from better diversification. This paper introduces risk into the dual model of production by constructing a utility-maximizing model in which managers

choose their most preferred production plan. We show that the utility function that ranks production plans is equivalent to a ranking of subjective probability distributions of profit that are conditional on the production plan.

Humphrey, David B.

TI The Effects of Megamergers on Efficiency and Prices: Evidence from a Bank Profit Function. **AU** Akhavein, Jalal D.; Berger, Allen N.; Humphrey, David B.

TI Efficiency of Financial Institutions: International Survey and Directions for Future Research. **AU** Berger, Allen N.; Humphrey, David B.

Hunt, Jennifer

PD August 1996. **TI** The Response of Wages and Actual Hours Worked to the Reductions of Standard Hours. **AA** Yale University and National Bureau of Economic Research. **SR** National Bureau of Economic Research Working Paper: 5716; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. Website: www.nber.org. **PG** 26. **PR** $5.00. **JE** E24, J22, J31, J51. **KW** Wages. Employment. Germany.

AB A transformation of what had become a universal 40 hour standard work week in Germany began in 1985 with reductions negotiated in the metal-working and printing sectors. These reductions have continued through 1995, and were followed by reductions in other sectors. The union campaign aimed to increase employment through "work-sharing," and is being emulated in the United States with the launch of a reduced hours campaign by the AFL-CIO. Using data from the German Socio-Economic Panel, I find that increased overtime or reduced short time was little used to offset the reduction in standard hours. One might expect this to have resulted in a loss of earnings for workers in affected industries, but standard hours were accompanied by a relative rise in the hourly straight-time wage of 2-3 percent for each hour fall in standard hours, enough to keep monthly earnings the same as in unaffected industries.

PD August 1996. **TI** Has Work-Sharing Worked in Germany? **AA** Yale University and National Bureau of Economic Research. **SR** National Bureau of Economic Research Working Paper: 5724; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. Website: www.nber.org. **PG** 22. **PR** $5.00. **JE** E24, J22, J23, J31, J51. **KW** Work Sharing. Germany. Employment.

AB Starting in 1985, (West) German unions began to reduce standard hours on an industry by industry basis, in an attempt to lower unemployment. Whether "work- sharing" works -- whether employment rises when hours per worker are reduced -- is theoretically ambiguous. I test this using individual data from the German Socio- Economic Panel and industry data to exploit the cross-section and time-series hours variation. For the 1984-1989 period I find that, in response to a one hour fall in standard hours, employment rose by 0.3-0.7 percent, but that total hours worked fell 2-3 percent, implying possible output losses. As a group workers were better off, however, as the wage bill rose. The employment growth implied by the mean standard hours decline, at most 1.1 percent, was not enough to bring German employment growth close to the U.S. rate. Results for the 1990-1994 period were more pessimistic.

Irons, John

TI Money, Politics and the Post-War Business Cycle. **AU** Faust, Jon; Irons, John.

Irwin, Douglas

PD July 1996. **TI** Changes in U.S. Tariffs: Prices or Policies? **AA** University of Chicago and National Bureau of Economic Research. **SR** National Bureau of Economic Research Working Paper: 5665; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. Website: www.nber.org. **PG** 18. **PR** $5.00. **JE** E31, F13. **KW** Tariffs. International Trade. Duties. Imports.

AB In the century after the Civil War, roughly two-thirds of U.S. dutiable imports were subject to specific duties whose ad valorem equivalent was inversely related to the price level. This paper finds that import price fluctuations easily dominate commercial policies (changes in rates of import duty) in bringing about changes in the average U.S. tariff from 1865-1973. About three-quarters of the post- Smoot Hawley decline in U.S. tariffs, for example, can be attributed to higher import prices, the remainder to negotiated reductions in tariff rates.

Iyigun, Murat F.

PD November 1996. **TI** Timing of Childbearing, Family Size and Economic Growth. **AA** Board of Governors of the Federal Reserve System. **SR** Board of Governors of the Federal Reserve System, International Finance Discussion Paper: 573; Board of Governors of the Federal Reserve System, Division of International Finance, Mail Stop 24, Washington, DC 20551. Website: www.bog.frb.fed.us. **PG** 21. **PR** no charge. **JE** J13, J24, O11, O40. **KW** Human Capital. Fertility. Family Size. Economic Growth.

AB This paper incorporates the timing of childbearing into a growth model with endogenous fertility. It analyzes a model in which individuals' human capital stock depends positively on their education and parental human capital and in which producing and raising children and acquiring human capital are time intensive. The model highlights how changes in the human capital stock interact with individuals' timing of childbearing in affecting the evolution of the economy. It shows that, if the complementarity between parental human capital and education in determining individuals' human capital is relatively large, then increases in the human capital stock raise the opportunity cost of having children while young and induce individuals to delay childbearing. That, in turn, accelerates human capital accumulation in the future. The model also demonstrates that early childbearing may lead to a development trap with low human capital.

Jaffe, Adam

PD August 1996. **TI** Flows of Knowledge from Universities and Federal Labs: Modeling the Flow of Patent Citations Over Time and Across Institutional and Geographic Boundaries. **AU** Jaffe, Adam; Trajtenberg, Manuel. **AA** Jaffe: Brandeis University and National Bureau of Economic Research. Trajtenberg: Tel Aviv University and National Bureau of Economic Research. **SR** National Bureau of Economic Research Working Paper: 5712; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. Website: www.nber.org. **PG** 17. **PR** $5.00. **JE** F43, O31, O33, O34. **KW** Growth. Knowledge Diffusion. Technology.

AB The extent to which new technological knowledge flows across institutional and national boundaries is a question of great importance for public policy and the modeling of economic growth. This paper develops a model of the process generating subsequent citations to patents as a lens for viewing knowledge diffusion. We find that the probability of patent citation over time after a patent is granted fits well to a double-exponential function that can be interpreted as the mixture of diffusion and obsolescence functions. The results indicate that diffusion is geographically localized. Controlling for other factors, within-country citations are more numerous and come more quickly than those that cross country boundaries.

Jefferson, Philip N.

PD April 1997. **TI** 1980s and 1990s. **AA** Board of Governors of the Federal Reserve Board. **SR** Board of Governors of the Federal Reserve System, Finance and Economics Discussion Paper Series: 1997/21; Ms. Karen Blackwell, FEDS Secretary, Mail Stop 77, Federal Reserve Board, Washington, DC 20551. Website: www.bog.frb.fed.us/pubs/feds/. **PG** 24. **PR** no charge. **JE** E51, E52. **KW** Currency Abroad. Monetary Base. Nominal Income. Monetary Policy.

AB This paper evaluates the quantitative importance of removing U.S. currency held abroad from the monetary base. We find that a simple macroeconometric model that uses home base has more explanatory power for changes in nominal income than when the total base is used. Moreover, proposed base rules for the conduct of monetary policy perform better when the model for home base is employed. The evidence from our elementary exercises suggests that accounting for foreign holdings of U.S. currency may be important in other contexts also.

Johnston, Louis

TI Real Exchange Rate Level, Productivity and Demand Shocks: Evidence from a Panel of 14 Countries. **AU** Chinn, Menzie; Johnston, Louis.

Johri, Alok

TI Dynamic Complementarities: A Quantitative Analysis. **AU** Cooper, Russell W.; Johri, Alok.

Jones, Charles I.

PD February 1997. **TI** Measuring the Social Return to R&D. **AU** Jones, Charles I.; Williams, John C. **AA** Jones: Board of Governors of the Federal Reserve System. Williams: Stanford University. **SR** Board of Governors of the Federal Reserve System, Finance and Economics Discussion Paper Series: 1997/12; Ms. Karen Blackwell, FEDS Secretary, Mail Stop 77, Federal Reserve Board, Washington, DC 20551. Website: www.bog.frb.fed.us/pubs/feds. **PG** 22. **PR** no charge. **JE** O32, O41. **KW** Social Return. Research and Development. Endogenous Growth.

AB A large empirical literature reports estimates of the rate of return to R&D ranging from 30% to over 100%, supporting the notion that there is too little private investment in research. This conclusion is challenged by the new growth theory. We derive analytically the relationship between the social rate of return to R&D and the coefficient estimates of the empirical literature. We show that these estimates represent a lower bound on the true social rate of return. Using a conservative estimate of the rate of return to R&D of about 30%, optimal R&D investment is at least four times larger than actual investment.

Jones, Stephen R. G.

PD October 1997. **TI** Gross Flows of Labour in Canada and the United States. **AU** Jones, Stephen R. G.; Riddell, W. Craig. **AA** Jones: McMaster University. Riddell: University of British Columbia. **SR** University of British Columbia, Department of Economics, Discussion Paper: 97/25; Department of Economics, University of British Columbia, #997-1873 East Mall, Vancouver, BC V6T 1Z1. Website: web.arts.ubc.ca/econ. **PG** 36. **PR** **JE** J60. **KW** Gross Flows. Unemployment. Employment. Labor Market Dynamics. Unemployment Differential.

AB We employ data on gross flows of labor to provide a comparative analysis of labor market behavior in Canada and the U.S. in 1976-1994. Although the relative rise in Canadian unemployment is partly associated with relative changes in the transition probabilities between Unemployment and Employment (in both directions), the rise is more closely associated with movements between the two nonemployment states, Unemployment and Not in the Labour Force. A simulation suggests that the relative increase in Canadian "labor force attachment" starting in the early 1980's may have played a sizeable role in the emergence of the unemployment rate gap.

Jonvanovic, Boyan

PD July 1996. **TI** Stepping Stone Mobility. **AU** Jonvanovic, Boyan; Nyarko, Yaw. **AA** Jonvanovic: New York University and National Bureau of Economic Research. Nyarko: New York University. **SR** National Bureau of Economic Research Working Paper: 5651; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. Website: www.nber.org. **PG** 30. **PR** $5.00. **JE** D83, J23, J24, J62. **KW** Labor Productivity. Human Capital. Learning. Labor Mobility.

AB People at the top of an occupational ladder earn more partly because they have spent time on lower rungs, where they have learned something. But what precisely do they learn? There are two contrasting views: First, the "Bandit" model assumes that people are different, that experience reveals their characteristics, and that consequently an occupational switch can result. Second, in our "Stepping Stone" model, experience raises a worker's productivity on a given task and the acquired skill can in part be transferred to other occupations, and this prompts movement. Safe activities (where mistakes destroy less output) are a natural training ground.

Joskow, Paul

PD September 1996. **TI** Auction Design and the Market for Sulfur Dioxide Emissions. **AU** Joskow, Paul; Schmalensee, Richard; Bailey, Elizabeth. **AA** Joskow and Schmalensee: Massachusetts Institute of Technology and National Bureau of Economic Research. Bailey: Massachusetts Institute of Technology. **SR** National Bureau of Economic Research Working Paper: 5745; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. Website: www.nber.org. **PG** 28. **PR** $5.00. **JE** D44, D62, Q25. **KW** Clean Air Act. Sulfur Dioxide. Auctions. Emissions Market.

AB Title IV of the Clean Air Act Amendments of 1990 created a market for electric utility emissions of sulfur dioxide (SO2). Recent papers have argued that flaws in the design of the auctions that are part of this market have adversely affected its performance. These papers incorrectly assume that trade can only occur at auctions, however. Our empirical analysis of the SO2 emissions market shows that the auctions have become a small part of a relatively efficient market and that the auction design problems that have attracted the most attention have had no effect on actual market prices.

Jovanovic, Boyan

PD June 1996. **TI** Contracts and Money. **AU** Jovanovic, Boyan; Ueda, Masako. **AA** Jovanovic: New York University and National Bureau of Economic Research. Ueda: University of Pennsylvania. **SR** National Bureau of Economic Research Working Paper: 5637; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. Website: www.nber.org. **PG** 20. **PR** $5.00. **JE** D82, E40, J41, J53. **KW** Renegotiation. Contracts. Consumption. Monetary Neutrality.

AB We analyze the contractual relation between workers and their employers when there is nominal risk. The key feature of the problem is that the consumption deflator is random and observed sometime after the effort is exerted. The worker's effect is not observable, and to induce the agent to work, second-best contracts do not insure the worker fully. They do eliminate all nominal risk for the parties (by fully indexing the terms of the contracts to the price level) but they would be re-negotiated. Foreseeing this, the parties to the contract will write one that is renegotiation-proof. Under such a contract, nominal shocks affect real consumption. Since the argument should apply in many situations, it will have macroeconomic implications, one of which is short-run non-neutrality of money. We have found that surprise money is likely to redistribute consumption and welfare towards workers, and away from shareholders.

Judson, Ruth A.

PD January 1997. **TI** Estimating Dynamic Panel Data Models: A Practical Guide for Macroeconomists. **AU** Judson, Ruth A.; Owen, Ann L. **AA** Board of Governors of the Federal Reserve System. **SR** Board of Governors of the Federal Reserve System, Finance and Economics Discussion Paper Series: 1997/03; Ms. Karen Blackwell, FEDS Secretary, Mail Stop 77, Federal Reserve Board, Washington, DC 20551. Website: www.bog.frb.fed.us/pubs/feds. **PG** 22. **PR** no charge. **JE** C15, C23, E10, O11. **KW** Panel Data. Simulation Dynamic Model. Macroeconomics. Growth. Monte Carlo.

AB We use a Monte Carlo approach to investigate the performance of several different methods designed to reduce the bias of the estimated coefficients for dynamic panel data models estimated with the longer, narrower panels typical of macro data. We find that the bias of the least squares dummy variable approach can be significant, even when the time dimension of the panel is as large as 30. For panels with small time dimensions, we find a corrected least squares dummy variable estimator to be the best choice. However, as the time dimension of the panel increases, the computationally simpler Anderson-Hsiao estimator performs equally well.

Kambhampati, Uma

PD June 1997. **TI** The Effect of Trade Policy Reforms on Labor Markets: Evidence from India. **AU** Kambhampati, Uma; Krishna, Pravin; Devashish, Mitra. **AA** Kambhampati: London School of Economics. Krishna: Brown University. Devashish: Columbia University. **SR** Brown University, Department of Economics Working Paper: 97/16; Department of Economics, Brown University, Providence, RI 02912. **PG** 21. **PR** no charge. **JE** F12, F13, F14, J21, J23. **KW** International Trade. Policy Reform. Labor Markets. Development.

AB This paper investigates the labor market impact of the 1991 trade reforms in India using a detailed panel data set on firms in five different import competing industries. We have two main results. First, we find only a small and insignificant effect of the reforms on employment -- overall and in each of the five import competing industries. Second, we investigate the relationship between labor demand and markups and find that there is a significant negative relationship between markups and the demand for labor -- overall and in four of the five industries studied. This provides evidentiary support for "pro-competitive" effects of trade reforms on labor markets as suggested by the theory. Trade liberalization increases the demand elasticity perceived by firms and induces them to reduce markups and increase their output, thus (in direct contradiction to the predictions of competitive models of trade) inducing an increase in the demand for labor which may at least partially offset the reduction in labor demand caused by other factors.

Kane, Edward

TI Risk-Shifting by Federally Insured Commercial Banks. **AU** Hovakimina, Armen; Kane, Edward.

Katz, Lawrence F.

TI The Origins of Technology-Skill Complementarity. **AU** Goldin, Claudia; Katz, Lawrence F.

PD July 1996. **TI** Wage Subsidies for the Disadvantaged. **AA** Harvard University and National Bureau of Economic Research. **SR** National Bureau of Economic Research Working Paper: 5679; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. Website: www.nber.org. **PG** 32. **PR** $5.00. **JE** H25, H53, I38, J38. **KW** Wage Subsidies. Employment. Wages. Welfare.

AB Wage subsidies to private employers have often been proposed by economists as a potentially flexible and efficient method to improve the earnings and employment of low-wage workers. This paper lays out the basic economics of wage subsidies; examines issues arising in the design of alternative forms of wage subsidies; and reviews evidence on the effectiveness of recent U.S. wage subsidy programs and demonstration projects. Wage subsidies to employers to hire disadvantaged workers appear to modestly raise the demand for labor for those workers. Stand- alone wage subsidies (or employment tax credits) that are highly targeted on very specific groups (such as welfare recipients) appear to have low utilization rates and may (in some cases) stigmatize the targeted group. But new evidence based on an examination of changes in eligibility rules for the Targeted Jobs Tax Credit suggests modest positive employment effects of the TJTC on economically disadvantaged youth adults.

Keim, Donald B.

TI The Cross Section of Common Stock Returns: A Reveiw of the Evidence and Some New Findings. **AU** Hawawini, Gabriel; Keim, Donald B.

Kende, Michael

TI The Dynamics of Technological Adoption in Hardware/Software Systems: The Case of Compact Disc Players. **AU** Gandal, Neil; Kende, Michael; Rob, Rafael.

Kiernan, Kathleen

PD October 1997. **TI** The Legacy of Parental Divorce: Social, Economic and Demographic Experiences in Adulthood. **AA** London School of Economics. **SR** STICERD, London School of Economics Discussion Papers Series: CASE/1; STICERD, Room R.415, London School of Economics and Political Science, Houghton Street, London WC2A 2AE, UK. **PG** 42. **PR** no charge. **JE** J12. **KW** Divorce. Demography. Children.

AB This study addresses three questions. First, to what extent does divorce during childhood have long-term consequences for the educational attainment, economic situation, partnership formation and dissolution, and parenthood behavior in adulthood? The authors show that in most of these domains children who experience parental divorce in childhood have more negative experiences than children reared by both their parents. However, in answering our second question, as to whether child and family characteristics preceding divorce attenuate the relationship between the divorce itself and adult outcomes, it is shown that for the non-demographic ones there is evidence of powerful selection efforts operating, particularly to do with financial hardship. Third, if parents remain together until their children are grown up before separating does this lessen the legacy of divorce on their adult children's lives? The answer is in the affirmative for most of the adult outcomes.

Kilian, Lutz

TI Measuring Predictability: Theory and Macroeconomic Applications. **AU** Diebold, Francis X.; Kilian, Lutz.

Kim, Chang-Jin

TI The Long-Run U.S./U.K. Real Exchange Rate. **AU** Engel, Charles; Kim, Chang-Jin.

Kim, Jinill

PD April 1997. **TI** Three Sources of Increasing Returns to Scale. **AA** Federal Reserve Board. **SR** Board of Governors of the Federal Reserve System, Finance and Economics Discussion Paper Series: 1997/18; Ms. Karen Blackwell, FEDS Secretary, Mail Stop 77, Federal Reserve Board, Washington, DC 20551. Website: www.bog.frb.fed.us/pubs/feds. **PG** 36. **PR** no charge. **JE** D43, E23, E32. **KW** Increasing Returns. Monopolistic Competition. Returns to Variety.

AB This paper reviews various types of increasing returns from a critical perspective. Increasing returns have been introduced both at the firm level and at the aggregate level in a monopolistic-competition model. We show that the degree of the aggregate returns to scale is a linear combination of three return parameters, with the weights determined by the specification of a zero-profit condition. Identification issues are discussed with an emphasis on recent macro literature. We argue that disaggregate data give information on the market structure rather than the technology. Welfare implications explain why it is important to identify various increasing returns.

Kim, Minseong

TI Inequality, Predation and Welfare. **AU** Grossman, Herschel I.; Kim, Minseong.

Kim, Seongjun

TI International R&D Spillovers, Trade and Productivity in Major OECD Countries. **AU** Nadiri, M. Ishaq; Kim, Seongjun.

Kimura, Fukunari

PD July 1996. **TI** Application of Nationality-Adjusted Net Sales and Value Added Framework: The Case of Japan. **AU** Kimura, Fukunari; Baldwin, Robert. **AA** Kimura: Keio University. Baldwin: University of Wisconsin-Madison and National Bureau of Economic Research. **SR** National Bureau of Economic Research Working Paper: 5670; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. Website: www.nber.org. **PG** 20. **PR** $5.00. **JE** F01, F14, F15. **KW** Japan. Value Added. Trade Balance. International Trade.

AB This paper applies the nationality-adjusted net sales and value added framework proposed in Baldwin and Kimura (1996) to Japan. Despite possibly large estimation errors due to statistical deficiencies, the framework is very useful for analyzing the relationship of the Japanese economy to the world economy. The authors' find that Japan is special in the following four aspects. First, Japanese-owned firms have become increasingly dependent on the marketing activities of their foreign affiliates. Second, the much smaller activities of Japanese affiliates of foreign firms (JAFF) relative to those of foreign affiliates of Japanese firms (FAJF) are apparent in terms of sales, value added, and employment. Third, Japanese net sales to foreigners are consistently larger than cross-border net exports of Japan. Fourth, among the activities of FAJF, the importance of commercial FAJF is significant; these commercial FAJF handle a large portion of Japanese exports and imports.

Kingdon, Geeta Ghandi

PD January 1997. **TI** Does the Labor Market Explain Lower Female Schooling in India? **AA** London School of Economics and University of Oxford. **SR** STICERD, London School of Economics Discussion Papers Series: DERP/1; STICERD, Room R.415, London School of Economics and Political Science, Houghton Street, London WC2A 2AE, UK. **PG** 47. **PR** no charge. **JE** I21, J16, J23, J31, J71. **KW** Education. Gender. Female Labor. Earnings Function. India.

AB Labor market discrimination against women and parental discrimination against daughters are two of the most commonly cited explanations of the gender gap in education in developing countries. This study empirically tests the labor market explanation for India using household survey data. It estimates work force participation functions and selectivity- corrected earnings functions, and calculates the rates of return to education for the two sexes. Using the Blinder-Oaxaca method, the gross gender difference in earnings is decomposed into the part that is explained by men and women's differential characteristics and that part that is due to labor market discrimination. The results reveal that there is substantial omitted family background bias in the estimates of returns and that, contrary to received wisdom, the rates of returns to education rise by education level. The analysis suggests that girls face significantly lower economic rates of returns to education than boys.

Konan, Denise Eby

TI A Unified Treatment of Horizontal Direct Investment, Vertical Direct Investment, and the Pattern of Trade in Goods and Services. **AU** Markusen, James R.; Konan, Denise Eby; Venables, Anthony J.; Zhang, Kevin H.

Koopman, Siem Jan

TI Messy Time Series: A Unified Approach. **AU** Harvey, Andrew; Koopman, Siem Jan.

Kortum, Samuel

TI Environmental Change and Hedonic Cost Functions for Automobiles. **AU** Berry, Steven; Kortum, Samuel; Pakes, Ariel.

Kotlikoff, Laurence

PD September 1996. **TI** Simulating the Privatization of Social Security in General Equilibrium. **AA** Boston University and National Bureau of Economic Research. **SR** National Bureau of Economic Research Working Paper: 5776; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. Website: www.nber.org. **PG** 34. **PR** $5.00. **JE** D91, G23, H55, J26, L33. **KW** Social Security. Pensions. Privatization.

AB This paper studies the macroeconomic and efficiency effects of privatizing social security. It does so by simulating alternative privatization schemes using the Auerbach- Kotlikoff Dynamic Life-Cycle Model. The simulations indicate three things. First, privatizing social security can generate very major long-run increases in output and living standards. Second, although the long-run gains from privatization are larger if privatization redistributes resources from initial to future generations, the pure efficiency gains from privatization are also substantial. Efficiency gains refers to the welfare improvement available to future generations after existing generations have been fully compensated for their losses from privatization. The precise size of the efficiency gain depends on the existing tax structure, the linkage between benefits and taxes under the existing social security system, and the method chosen to finance benefits during the transition. Third, at least in the long run, privatizing social security is likely to be progressive.

Kremer, Michael

PD July 1996. **TI** Elephants. **AU** Kremer, Michael; Morcom, Charles. **AA** Kremer: Massachusetts Institute of Technology and National Bureau of Economic Research. Morcom: Massachusetts Institute of Technology. **SR** National Bureau of Economic Research Working Paper: 5674; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. Website: www.nber.org. **PG** 33. **PR** $5.00. **JE** D84, Q21, Q28, Q31, Q38. **KW** Open-Access Resources. Storable Resources. Natural Resources. Scarcity.

AB Existing models of open-access resources are applicable to non- storable resources, such as fish. Many open-access resources, however, are used to produce storable goods. Elephants, rhinos, and tigers are three prominent examples. Anticipated future scarcity of these resources will increase current prices and current poaching. This implies that, for given initial conditions, there may be rational expectations equilibria leading both to extinction and to survival. Governments may be able to eliminate extinction equilibria by promising to implement tough anti-poaching measures if the population falls below a threshold. Alternatively, they, or private agents, may be able to eliminate extinction equilibria by accumulating a sufficient stockpile of the storable goods.

PD August 1996. **TI** Wage Inequality and Segregation by Skill. **AU** Kremer, Michael; Maskin, Eric. **AA** Kremer: Massachusetts Institute of Technology and National Bureau of Economic Research. Maskin: Harvard University. **SR** National Bureau of Economic Research Working Paper: 5718; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. Website: www.nber.org. **PG** 48. **PR** $5.00. **JE** E24, J23, J31. **KW** Wages. Skill Segregation. Great Britain. France.

AB Evidence from the United States, Britain, and France suggests that recent growth in wage inequality has been accompanied by greater segregation of high- and low-skill workers into separate firms. A model in which workers of different skill-levels are imperfect substitutes can simultaneously account for these increases in segregation and inequality either through technological change, or, more parsimoniously, through observed changes in the skill-distribution.

Krishna, Kala

PD July 1996. **TI** Implementing Results-Oriented Trade Policies: The Case of the US- Japanese Auto Parts Dispute. **AU** Krishna, Kala; Morgan, John. **AA** Krishna: Pennsylvania State University and National Bureau of Economic Research. Morgan: Princeton University. **SR** National Bureau of Economic Research Working Paper: 5680; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. Website: www.nber.org. **PG** 31. **PR** $5.00. **JE** F13, F14, L62. **KW** Tariffs. Japan. Auto Industry. International Trade.

AB Why would the U.S. threaten punitive tariffs on luxury autos to implement a market share target in auto parts? We show that by making threats to a linked market, a market share target may be implemented with fairly weak informational and administrative requirements. Moreover, such policies can be both pro-competitive and advantageous to U.S. firms.

Krishna, Pravin

TI The Effect of Trade Policy Reforms on Labor Markets: Evidence from India. **AU** Kambhampati, Uma; Krishna, Pravin; Devashish, Mitra.

PD June 1997. **TI** A Unification of the Theory of Second Best. **AU** Krishna, Pravin; Panagariya, Arvind. **AA** Krishna: Brown University. Panagariya: University of Maryland. **SR** Brown University, Department of Economics Working Paper: 97/17; Department of Economics, Brown University, Providence, RI 02912. **PG** 34. **PR** no charge. **JE** D50, F11, F13, H20. **KW** Second Best. Optimization. Commercial Policy. Public Finance.

AB The received wisdom from the theory of second best is that the presence of distortions in some sectors of the economy would in general require intervention in other sectors as well. This paper offers a set of simple propositions which help unify the results of numerous papers involving the theory of second best, many of which appear to contradict this theory. The propositions identify how, in optimization problems in economics, pre-imposed quantitative restrictions enter differently from price restrictions. The implications of this difference for the conduct of second best optimum policies are also analyzed. In particular, this paper identifies and discusses the conditions under which the presence of distortions in some sectors does not undermine the case for non- intervention in other markets.

PD July 1997. **TI** Are Regional Trading Blocks "Natural"? **AA** Brown University. **SR** Brown University, Department of Economics Working Paper: 97/19; Department of Economics, Brown University, Providence, RI 02912. **PG** 26. **PR** no charge. **JE** F02, F12, F13, F15. **KW** Trade Policy. Trading Blocks. Partner Choice. Welfare Effects.
AB A central statement of the natural trading partners theory is that trade blocks with geographically proximate countries should be preferred to trade blocks with distant ones and therefore that regional trade blocks are "natural". An alternate and more limited version of this theory suggests that trade blocks with significant trading partners should be preferred over trade blocks with less significant ones. This paper examines both these hypotheses using U.S. trade data for the years 1964-1995. Geographic proximity is found to have no effect while the volume of bilateral trade is found to be significant. Thus, this paper rejects the argument that regional trading blocks are natural while accepting that preferential tariff liberalization in favor of significant partners is likely to yield better outcomes.

TI On the Existence of Necessarily Welfare-Enhancing Free Trade Areas. **AU** Panagariya, Arvind; Krishna, Pravin.

Krueger, Alan

PD June 1996. **TI** Observations on International Labor Standards and Trade. **AA** Princeton University and National Bureau of Economic Research. **SR** National Bureau of Economic Research Working Paper: 5632; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. Website: www.nber.org. **PG** 31. **PR** $5.00. **JE** F13, F41, J23. **KW** International Trade. Child Labor. Labor Standards. Education. Protectionism.
AB This paper reviews the theoretical arguments for and against linking international labor standards to trade. Based on theory alone it is difficult to generalize about the effect of labor standards on efficiency and equity. Some economists have argued that international labor standards are merely disguised protectionism. An evaluation of determinants of support for legislation that would ban imports to the United States of goods made with child labor provides little support for the prevailing political view. In particular, members of Congress representing districts with relatively many unskilled workers are less likely to support a ban on imports made with child labor. Another finding is that the prevalence of child labor declines sharply with national income. Last, an analysis of compulsory schooling laws finds a tremendous amount of noncompliance in developing nations.

TI School Resources and Student Outcomes: An Overview of the Literature and New Evidence from North and South Carolina. **AU** Card, David; Krueger, Alan.

PD September 1996. **TI** Do Markets Respond More to More Reliable Labor Market Data? A Test of Market Rationality. **AA** Princeton University and National Bureau of Economic Research. **SR** National Bureau of Economic Research Working Paper: 5769; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. Website: www.nber.org. **PG** 25. **PR** $5.00. **JE** E22, E24, E43, J21. **KW** Interest Rates. Employment. Investment.
AB Since 1979, the Bureau of Labor Statistics (BLS) has nearly quadrupled the size of the sample used to estimate monthly employment changes. Although first-reported employment estimates are still noisy, the magnitude of sampling variability has declined in proportion to the increase in the sample size. A model of rational Bayesian updating predicts that investors would assign more weight to the BLS employment survey as it became more precise. However, a regression analysis of changes in interest rates on the day the employment data are released finds no evidence that the bond market's reaction to employment news intensified in the late 1980's or early 1990's. For the time period as a whole, an unexpected increase of 200,000 jobs is associated with an 8 basis point increase in the interest rate on 30 year Treasury bonds, and a 9 basis point increase in the interest rate on 3 month bills, all else equal.

Kulandaiswamy, Selvan

PD March 1997. **TI** 1996 Software Best Practices Survey: Analysis of Results. **AU** Kulandaiswamy, Selvan; Dutta, Soumitra; Van Wassenhove, Luk N. **AA** INSEAD. **SR** INSEAD Working Papers: 97/38/TM; INSEAD, Research and Development Department, Boulevard de Constance, 77305 Fontainebleau, France. Website: www.insead.fr/Research. **PG** 18. **PR** no charge up to five copies, after five copies 18FF per working paper plus postage and VAT. **JE** F13, L15, M11, O14, O33. **KW** Europe. Software. Best Practices. Knowledge Sharing.
AB This report presents an analysis of the results of the Software Best Practice Questionnaire (SBPQ) enclosed with the project proposals submitted to the European Commission during the ESSI Call for Proposals in 1996. The levels of best practice adoption across countries shows significant variation. For instance, in the context of the usage of tools and technology, the levels range from a high of 68% for France to a low of 37% for Spain. France implements more best practices in all categories: organizational issues, standards, change control, metrics and the use of tools. Some countries such as Denmark and Belgium have very low levels of overall software best practice adoption. While these variations across countries are to be expected, it points to the need for a greater emphasis on the sharing of knowledge and the transfer of best practices across countries.

Kupiec, Paul H.

PD March 1997. **TI** The Pre-Commitment Approach: Using Incentives to Set Market Risk Capital Requirements. **AU** Kupiec, Paul H.; O'Brien, James M. **AA** Board of Governors of the Federal Reserve System. **SR** Board of Governors of the Federal Reserve System, Finance and Economics Discussion Paper Series: 1997/14; Ms. Karen Blackwell, FEDS Secretary, Mail Stop 77, Federal Reserve Board, Washington, DC 20551. Website: www.bog.frb.fed.us/pubs/feds. **PG** 52. **PR** no charge. **JE** G21, G28. **KW** Bank Capital. Market Risk. Incentive Regulation. Banking.
AB This paper develops a model of bank behavior that

focuses on the interaction between the incentives created by fixed-rate deposit insurance and a bank's choice of its loan portfolio and its market- traded financial instruments. The model is used to analyze the consequences of the Federal Reserve Board's proposed Pre-Commitment Approach (PCA) for setting market risk capital requirements for bank trading portfolios. Under the PCA, a bank determines its own market risk capital requirement subject to known regulatory penalties should its trading activities generate subsequent losses that exceed its market risk capital commitment.

PD April 1997. **TI** Margin Requirements, Volatility, and Market Integrity: What Have We Learned Since the Crash? **AA** Board of Governors of the Federal Reserve System. **SR** Board of Governors of the Federal Reserve System, Finance and Economics Discussion Paper Series: 1997/12; Ms. Karen Blackwell, FEDS Secretary, Mail Stop 77, Federal Reserve Board, Washington, DC 20551. Website: www.bog.frb.fed.us/pubs/feds. **PG** 32. **PR** no charge. **JE** G12, G18. **KW** Margin Requirements. Volatility. Derivatives. Stock Returns.

AB This study assesses the state of the policy debate that surrounds the Federal regulation of margin requirements. A relatively comprehensive review of the literature finds no undisputed evidence that supports the hypothesis that margin requirements can be used to control stock return volatility and correspondingly little evidence that suggests that margin-related leverage is an important underlying source of "excess" volatility. The evidence does not support the hypothesis that there is a stable inverse relationship between the level of regulation of margin requirements and stock return volatility nor does it support the hypothesis that the leverage advantage in equity derivative products is a source of additional returns volatility in the stock market.

Kwan, Stephen

TI Transforming Business in the Marketspace: Strategic Marketing and Customer Relationships. **AU** Dutta, Soumitra; Kwan, Stephen; Segev, Arie.

Kwan, Yum

PD August 1996. **TI** Hong Kong's Currency Board And Changing Monetary Regimes. **AU** Kwan, Yum; Lui, Francis. **AA** Hong Kong University. **SR** National Bureau of Economic Research Working Paper: 5723; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. Website: www.nber.org. **PG** 26. **PR** $5.00. **JE** E42, E63. **KW** Hong Kong. Monetary Regimes. Currency Board.

AB The paper discusses the historical background and institutional details of Hong Kong's currency board. The authors argue that its experience provides a good opportunity to test the macroeconomic implications of the currency board regime. Using the method of Blanchard and Quah (1989), the authors show that the parameters of the structural equations and the characteristics of supply and demand shocks have significantly changed since adopting the regime. Variance decomposition and impulse response analyses indicate Hong Kong's currency board is less susceptible to supply shocks, but demand shocks can cause greater short-term volatility under the system. The decent performance of Hong Kong's currency board is due mainly to the stable fiscal policy of its government. Counter-factual exercises also show that three-fourths of the reduction in observed output volatility and two-thirds of that in observed inflation are explained by the adoption of the currency board.

La Porta, Rafael

PD July 1996. **TI** Law and Finance. **AU** La Porta, Rafael; Lopez-de-Silanes, Florencio; Shleifer, Andrei; Vishny, Robert. **AA** La Porta: Harvard University. Lopez-de-Silanes and Shleifer: Harvard University and National Bureau of Economic Research. Vishny: University of Chicago and National Bureau of Economic Research. **SR** National Bureau of Economic Research Working Paper: 5661; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. Website: www.nber.org. **PG** 42. **PR** $5.00. **JE** G30, K22. **KW** Securities Law. Corporate Finance. Shareholder Protection.

AB This paper examines legal rules covering protection of corporate shareholders and creditors, the origin of these rules, and the quality of their enforcement in 49 countries. The results show that common law countries generally have the best, and French civil law countries the worst, legal protections of investors, with German and Scandinavian civil law countries located in the middle. We also find that concentration of ownership of shares in the largest public companies is negatively related to investor protections, consistent with the hypothesis that small, diversified shareholders are unlikely to be important in countries that fail to protect their rights.

Lach, Saul

TI Is "Learning-by-Exporting" Important? Micro-Dynamic Evidence from Colombia, Mexico, and Morocco. **AU** Clerides, Sofronis; Lach, Saul; Tybout, James.

Laibson, David

PD June 1996. **TI** Hyperbolic Discount Functions, Undersaving, and Savings Policy. **AA** Harvard University and National Bureau of Economic Research. **SR** National Bureau of Economic Research Working Paper: 5635; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. Website: www.nber.org. **PG** 30. **PR** $5.00. **JE** D11, D81, E21, E60. **KW** Hyperbolic Discounting. Undersaving. Consumer Behavior. Risk Aversion.

AB This paper analyzes an economy with complete markets which is populated by consumers with hyperbolic discount functions. Two ways are identified in which this economy can be distinguished from an exponential economy. First, hyperbolic discounting predicts the empirical regularity that the elasticity of intertemporal substitution is less than the inverse of the coefficient of relative risk aversion. Second, hyperbolic discounting explains many features of the policy debate about undersaving. The calibrated hyperbolic economy matches Bernheim's (1994) survey data on self-reported undersaving, and predicts pro-savings government interventions like capital-income subsidies and penalties for early withdrawal from retirement accounts. Hyperbolic consumers are willing to sacrifice 9/10 of a year's worth of income to induce the government to implement optimal revenue-neutral saving incentives.

Lajeri, Fatma

PD February 1997. **TI** Parametric Characterizations of Risk Aversion and Prudence. **AU** Lajeri, Fatma; Nielsen, Lars Tyge. **AA** Lajeri: Koc University. Nielsen: INSEAD. **SR** INSEAD Working Papers: 97/17/FIN; INSEAD, Research and Development Department, Boulevard de Constance, 77305 Fontainebleau, France. Website: www.insead.fr/Research. **PG** 17. **PR** no charge up to five copies, after five copies 18FF per working paper plus postage and VAT. **JE** D11, D81. **KW** Risk Aversion. Indifference Curves. Concavity. Background Risk.

AB The authors' first main result says that in order to determine whether one decision-maker is more risk averse than another it is sufficient to consider their attitudes toward a given two-parameter family of risks. When all risks belong to this family, useful comparisons of risk aversion can be made even in situations of "background risk" or random initial wealth. Risk aversion can be measured by the marginal rate of substitution between mean and standard deviation, which is the slope of an indifference curve. A utility function exhibits decreasing risk aversion if and only if this slope is a decreasing function of the mean. The authors' second main result uses the concept of prudence to solve a long-standing problem in mean-variance analysis: what is the economic interpretation of the concavity of a utility function which is a function of mean and variance?.

Lamb, Russell L.

PD December 1996. **TI** Off-Farm Labor Supply and Fertilizer Use. **AA** Federal Reserve Board. **SR** Board of Governors of the Federal Reserve System Finance and Economics Discussion Paper Series: 1996/49; Ms. Karen Blackwell, FEDS Secretary, Mail Stop 77, Federal Reserve Board, Washington, DC 20551. Website: www.bog.frb.fed.us/pubs/feds. **PG** 25. **PR** no charge. **JE** C61, J22, J43, Q11, Q12. **KW** Agricultural Economics. Labor Supply. Irrigation. Fertilizer Use. Dynamic Programming.

AB I develop a two-period stochastic dynamic programming model to explain the interaction between fertilizer use and off-farm labor supply. Using a well-known sample of Indian farmers, I find that fertilizer use responds strongly to the village wage and that irrigation raises fertilizer use, while larger farmers use less fertilizer (per acre) than smaller ones. Response to one-sided production shocks is stronger for female labor, indicating that it is more important for smoothing consumption than male labor.

Lamont, Owen

TI Relative Price Variability and Inflation: Evidence from US Cities. **AU** Debelle, Guy; Lamont, Owen.

PD July 1996. **TI** Earnings and Expected Returns. **AA** University of Chicago and National Bureau of Economic Research. **SR** National Bureau of Economic Research Working Paper: 5671; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. Website: www.nber.org. **PG** 30. **PR** $5.00. **JE** G12, G13, G30. **KW** Dividends. Payout Ratio. Excess Returns. Expected Returns.

AB The aggregate dividend payout ratio forecasts aggregate excess returns on both stocks and corporate bonds in post-war U.S. data. Both high corporate profits and high stock prices forecast low excess returns on equities. When the payout ratio is high, expected returns are high. The payout ratio's correlation with business conditions gives it predictive power for returns; it contains information about future stock and bond returns that is not captured by other variables. The payout ratio is useful because it captures the temporary components of earnings. The dynamic relationship between dividends, earnings and stock prices shows that a positive innovation in earnings lowers expected returns in the near future, but raises them thereafter.

Lander, Joel

PD January 1997. **TI** Earnings Forecasts and the Predictability of Stock Returns: Evidence from Trading the S&P. **AU** Lander, Joel; Orphanides, Athanasios; Douvogiannis, Martha. **AA** Board of Governors of Federal Reserve System. **SR** Board of Governors of the Federal Reserve System, Finance and Economics Discussion Paper Series: 1997/06; Ms. Karen Blackwell, FEDS Secretary, Mail Stop 77, Federal Reserve Board, Washington, DC 20551. Website: www.bog.frb.fed.us/pubs/feds. **PG** 25. **PR** no charge. **JE** C51, C52, G11, G12, G14. **KW** Asset Allocation. Earnings Yield. Earnings Forecasts. Market Timing. Regression Models.

AB We develop a simple error-correction model based on a well-known theory espoused by Benjamin Graham and David Dodd, and others, which presumes stock returns tend to restore an equilibrium relationship between the forecasted earnings yield on common stocks and the yield on bonds. The estimation uses I/B/E/S analysts forecasts of S&P earnings. To evaluate the model, we use rolling regressions to obtain out-of- sample forecasts of excess returns. Tests of association show the implicit timing signals to be statistically significant. Further, a strategy of investing in cash when the excess return is forecasted to be negative and in the S&P otherwise outperforms the S&P, yielding higher returns with smaller volatility. Using the bootstrap methodology we demonstrate that the findings are statistically significant.

Lang, William

TI Recovering Risky Technologies Using the Almost Ideal Demand System: An Application to US Banking. **AU** Hughes, Joseph P.; Lang, William; Mester, Loretta J.; Moon, Choon - Geol.

Lanjouw, Jean O.

PD July 1996. **TI** Preliminary Injunctive Relief: Theory and Evidence From Patent Litigation. **AU** Lanjouw, Jean O.; Lerner, Josh. **AA** Lanjouw: Yale University and National Bureau of Economic Research. Lerner: Harvard University and National Bureau of Economic Research. **SR** National Bureau of Economic Research Working Paper: 5689; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. Website: www.nber.org. **PG** 28. **PR** $5.00. **JE** D74, K10, K41, L14. **KW** Preliminary Injunctions. Patent Litigation. Law. Predation.

AB This paper examines the suggestion that established plaintiffs request preliminary injunctions to predate on less financially healthy firms. We first present a model in which differences in litigation costs drive the use of preliminary injunctions in civil litigation. The hypothesis is tested using a sample of 252 patent suits, which allows us to characterize the litigating parties while controlling for the nature of the dispute. The evidence is consistent with the predation hypothesis. We then explore various implications of the model and the impact of policy reforms.

PD September 1996. **TI** How to Count Patents and Value Intellectual Property: Uses of Patent Renewal and Application Data. **AU** Lanjouw, Jean O.; Pakes, Ariel; Putnam, Jonathan.

AA Lanjouw and Pakes: Yale University and National Bureau of Economic Research. Putnam: Yale University. **SR** National Bureau of Economic Research Working Paper: 5741; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. Website: www.nber.org.. **PG** 18. **PR** $5.00. **JE** K11, O31, O34, O47. **KW** Innovations. Patents. Proprietary Rights.

AB Patents counts are very imperfect measures of innovative output. This paper discusses how additional data -- the number of years a patent is renewed and the number of countries in which protection for the same invention is sought -- can be used to improve on counts in studies which require a measure of the extent of innovation. A simple renewal based weighting scheme is proposed which may remove half of the noise in patent counts as a measure of innovative output. The paper also illustrates how these data can be used to estimate the value of the proprietary rights created by the patent laws. The authors illustrate with estimates of how the value of patent protection would vary under alternative legal rules and renewal fees, and with estimates of the international flows of returns from the patent system..

TI Stylized Facts of Patent Legislation: Value, Scope and Ownership. **AU** Schankerman, Mark; Lanjouw, Jean O.

Lanjouw, Peter

TI Credit in Rural India: A Case Study. **AU** Dreze, Jean; Lanjouw, Peter; Sharma, Naresh.

Lanzona, Leonardo A.

PD November 1995. **TI** Migration Decisions, Self-Selection and Earnings in Low-Income Philippine Communities. **AA** Yale University. **SR** Yale Economic Growth Center Discussion Paper: 747; Economic Growth Center, Publications Office, Yale University, P.O. Box 208269, New Haven, CT 06520-2869. Website: www.library.yale.edu/socsci/egcpage.html. **PG** 37. **PR** $2.00 plus postage. **JE** J24, J31, J61, O15. **KW** Human Capital. Migration. Self Selection. Earnings Function. Philippines.

AB The purpose of this study is to determine whether migration causes sample selection bias in the estimation of wage equations in a low- income rural economy. One way of testing this hypothesis is to estimate wage equations of those who remain in their parental home and see if truncation or self-selection bias has resulted from migration. To perform this test, the paper uses a multinomial logit-OLS two-stage estimation of wages (Lee, 1983; Heckman, 1979). Using data gathered in the Philippines in 1978, 1983 and 1994, results show that more educated and relatively experienced individuals are more likely to migrate. Moreover, the wage estimates show significant negative selection biases, indicating that the workers who stay in their parental homes have wages lower than the population mean conditional on the observable variables. Compared to the estimates without selection control, the wage returns to schooling and experience were also noted to be higher.

Lawrence, Denis A.

TI The Deadweight Costs of Capital Taxation In Australia. **AU** Diewert, W. Erwin; Lawrence, Denis A.

Lawrence, Robert

PD June 1996. **TI** Trade and Wages: Insights from the Crystal Ball. **AU** Lawrence, Robert; Evans, Carolyn. **AA** Lawrence: Harvard University and National Bureau of Economic Research. Evans: Harvard University. **SR** National Bureau of Economic Research Working Paper: 5633; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. Website: www.nber.org. **PG** 18. **PR** $5.00. **JE** F41, J21, J23, J31. **KW** Labor Market. Imports. International Trade. Wages. Employment.

AB This study uses both a net factor content analysis and a small simulation model to explore the impact on the U.S. labor market of a fivefold increase in imports of manufactured goods from developing countries. The simulation involves a balance trade expansion which displaces almost half of U.S. manufacturing workers who are re-employed in the remaining manufacturing and non-trade sectors. The results show that relative wages of workers with a high school education or less would be depressed, while those with some college education would rise. However, the effects are surprisingly small with a 1.3 percent decline in the real wages of workers having a high school education or less and a 3.5 percent increase in the relative wages of workers with some college education.

Lazear, Edward P.

PD July 1996. **TI** Performance Pay and Productivity. **AA** Stanford University and National Bureau of Economic Research. **SR** National Bureau of Economic Research Working Paper: 5672; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. Website: www.nber.org. **PG** 33. **PR** $5.00. **JE** D82, E24, J24, J31, L62. **KW** Productivity. Wages. Wage Structure. Auto Industry.

AB What happens when a firm switches from paying hourly wages to paying piece rates? The theory developed below predicts that average productivity rises, that the firm will attract a more able work force and that the variance in output across individuals at the firm will rise as well. The theory is tested with data from a large autoglass company that changed compensation structures between 1994 and 1995. All theoretical predictions are borne out. In the firm examined, the productivity effects are extremely large, amounting to anywhere from about 20 percent to 36 percent of output, depending on what is held constant. About half of the worker-specific increase in productivity is passed on to workers in the form of higher wages.

Le Grand, Julian

PD February 1998. **TI** Tax Relief and Partnership Pensions. **AU** Le Grand, Julian; Agulnik, Phil. **AA** London School of Economics. **SR** STICERD, London School of Economics Discussion Papers Series: CASE/5; STICERD, Room R.415, London School of Economics and Political Science, Houghton Street, London WC2A 2AE, UK. **PG** 35. **PR** no charge. **JE** G23, G28, H55. **KW** Public Pensions. Taxes. Tax Reliefs. Pensions.

AB Government support of private (occupational and personal) pensions through the system of tax reliefs is large: between one quarter and one third that of direct support of state pensions through public expenditure. However, it is regressive, lacks transparency and is difficult to control. This paper argues that it should be replaced by a cost-neutral matching grant or tax-credit scheme. Such a scheme would embody the partnership idea implicit in much government policy in this area, but would be much more progressive, more open, and more accountable than existing arrangements. The argument is illustrated by statistical comparisons of the distributional impact of the present system and three alternative versions of the tax-credit scheme. An appendix discusses the methodology for calculating the cost of pension tax reliefs over time.

Leamer, Edward E.

PD October 1996. **TI** Effort, Wages and the International Division of Labor. **AA** University of California, Los Angeles and National Bureau of Economic Research. **SR** National Bureau of Economic Research Working Paper: 5803; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. Website: www.nber.org. **PG** 50. **PR** $5.00. **JE** F41, J24, J31, J41. **KW** Contracts. Effort. Labor Market. Compensation. International Trade.

AB This paper embeds variable effort into a traditional multi-sector model. Effort enters a production function like total-factor- productivity and on the assumption that effort doesn't affect capital depreciation, the capital-cost savings from high effort operations are passed on to workers. The labor market thus offers a set of contracts with higher wages compensating for higher effort. Among the implications of the model are: (I) The capital savings from effort are greatest in the capital-intensive sectors which is where the high-effort high-wage contracts occur. (II) Communities inhabited by industrious workers have high returns to capital and comparative advantage in capital-intensive goods. (III) Capital accumulation in a closed economy causes reductions in effort. Capital accumulation in an open economy creates new high-wage high-effort jobs and higher effort levels. (IV) Price declines of labor intensive goods twist the wage-effort offer curve, lowering the compensation for low-effort work but increasing the reward for hard work.

Lee, Darin

PD June 1997. **TI** The Core of Economics with Asymmetric Information: An Axiomatic Approach. **AU** Lee, Darin; Volij, Oscar. **AA** Brown University. **SR** Brown University, Department of Economics Working Paper: 97/15; Department of Economics, Brown University, Providence, RI 02912. **PG** 30. **PR** no charge. **JE** C71, D51, D82. **KW** Core. Asymmetric Information. Consistency. Reduced Economy.

AB We propose two generalizations of the Davis and Maschler (1965) reduced game property to economies with asymmetric information and apply them in the characterization of two solution concepts. One is Wilson's (1978) Coarse Core and the other is a subsolution of it which we call the Coarse+ Core.

Lerner, Josh

TI Preliminary Injunctive Relief: Theory and Evidence From Patent Litigation. **AU** Lanjouw, Jean O.; Lerner, Josh.

PD September 1996. **TI** The Government as Venture Capitalist: The Long-Run Impact of the SBIR Program. **AA** Harvard University and National Bureau of Economic Research. **SR** National Bureau of Economic Research Working Paper: 5753; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. Website: www.nber.org. **PG** 26. **PR** $5.00. **JE** G24, G28, G31, G38, H81. **KW** Venture Capital. SBIR. Corporate Finance. Public Programs.

AB Public programs to provide early-stage financing to firms, particularly high- technology companies, have become commonplace in the United States and abroad. The long-run effectiveness of these programs, however, has attracted little empirical scrutiny. This paper examines the impact of the largest U.S. public venture capital initiative, the Small Business Innovation Research (SBIR) program, which has provided over $6 billion to small high-technology firms between 1983 and 1995. Using a unique database of awardees compiled by the U.S. General Accounting Office, I show that SBIR awardees grew significantly faster than a matched set of firms over a ten-year period. The positive effects of SBIR awards were confined to firms based in zip codes with substantial venture capital activity. The findings are consistent with both the corporate finance literature on capital constraints and the growth literature on the importance of localization effects.

Leslie, Phillip

TI Educational Attainment and the Changing US Wage Structure: Some Dynamic Implications. **AU** Buchinsky, Moshe; Leslie, Phillip.

Levitt, Steven

TI Crime, Urban Flight, and the Consequences for Cities. **AU** Cullen, Julie; Levitt, Steven.

Li, Hao

PD August 1996. **TI** Unraveling In Assignment Markets. **AU** Li, Hao; Rosen, Sherwin. **AA** Li: University of Chicago. Rosen: University of Chicago and National Bureau of Economic Research. **SR** National Bureau of Economic Research Working Paper: 5729; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. Website: www.nber.org. **PG** 28. **PR** $5.00. **JE** D82, J41. **KW** Assignment Market. Contracts. Labor Markets. Unraveling.

AB The authors present a two-period model of the assignment market with uncertainty in the first period regarding productive characteristics of participants. This model is used to understand incentives toward early contracts or unraveling in labor markets for entry- level professionals. They study two contractual situations, one where firms are bound by ex post unsuccessful early contracts, and the other where they can buy out of unsuccessful early contracts. Unraveling provides the economic benefit of insurance in the absence of complete markets, but at the potential cost of inefficient assignments. Without reentry, unraveling need not occur. It is more likely the smaller the applicant pool or the proportion of more promising applicants and the greater the degree of heterogeneity. A ban on early contracts always hurts firms and benefits less promising applicants, but the welfare effects on more promising applicants depends on how the gains from early contracts are shared.

Liang, Chi-Yuan

TI Testing Endogenous Growth in South Korea and Taiwan. **AU** Feenstra, Robert C.; Madani, Dorsati; Yang, Tzu-Han; Liang, Chi-Yuan.

Lichtenberg, Frank

PD July 1996. **TI** International R&D Spillovers: A Re-

Examination. **AU** Lichtenberg, Frank; van Pottelsberghe de la Potterie, Bruno. **AA** Lichtenberg: Columbia University and National Bureau of Economic Research. Van Pottelsberghe de la Potterie: Universite Libre de Bruxelles. **SR** National Bureau of Economic Research Working Paper: 5668; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. Website: www.nber.org. **PG** 16. **PR** $5.00. **JE** F13, F15, F41, O30. **KW** International Trade. Technology Transfer. Trade Flows.

AB Coe and Helpman (1995) have measured the extent to which technology spills over between industrialized countries through the particular channel of trade flows. This paper re-examines two particular features of their study. First, we suggest that their functional form of how foreign R&D affects domestic productivity via imports is probably incorrect. We provide an alternative model which turns out to be more accurate, both theoretically and empirically. Second, we take into account two new potential channels of technology transfer: inward FDI and technology sourcing, as proxied by outward FDI. The empirical results show that outward FDI flows and import flows are two simultaneous channels through which technology is internationally diffused. Inward FDI flows are not a significant channel of technology transfer. The hypothesis of technology sourcing associated with MNE's activities abroad is therefore confirmed while the widespread belief that inward FDI is a major channel of technology transfer is rejected.

Lin, Kenneth

PD August 1996. **TI** Private Consumption, Non-Traded Goods and Real Exchange Rate: A Cointegration- Euler Equation Approach. **AA** National Taiwan University. **SR** National Bureau of Economic Research Working Paper: 5731; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. Website: www.nber.org. **PG** 22. **PR** $5.00. **JE** D11, E21, F31. **KW** Cointegration. Consumption. International Trade. Exchange Rates. Foreign Exchange.

AB This paper presents an empirical study of real exchange rate movements from a consumer's perspective. Trade between two countries creates a link between real exchange rate and terms of trade. It is the private consumption of non-traded goods that induces an equilibrium relationship between real exchange rate and provides consumption of traded and non-traded goods. The authors use Ogaki and Park's (1989) cointegration-Euler equation approach to explore long-run implications from the equilibrium relationship. Given the stationary preference shocks assumption, the testable restriction is that real exchange rate and private consumption of traded and non- traded goods in the home and foreign countries are cointegrated. The empirical evidence suggests that private consumption in the home and foreign countries accounts for a significant fraction of the long run movements of real exchange rate in South Korea and Taiwan. Accounting for real government consumption does not overturn the result.

Lindert, Peter H.

PD February 1997. **TI** Three Centuries of Inequality in Britain and America. **AA** University of California, Davis. **SR** University of California, Davis, Department of Economics Working Paper: 97/09; Department of Economics, University of California, Davis, CA 95616-8578. **PG** 74. **PR** $3.00 U.S. and Canada, $4.00 international; make checks payable to "Regents of the University of California.". **JE** D31, D63, N31, N32, N34. **KW** Income Inequality. Wealth Inequality. Distribution. Great Britain. Economic History.

AB Income and wealth inequality rose over the first 150 years of U.S. history. They may have risen at times in Britain before 1875. The first half of this century equalized pre-fiscal incomes more in Britain than in America. From the 1970's to the 1990's inequality rose in both countries, reversing some of the previous equalization. Government redistribution explains part but not all of the reversals in inequality trends. Factor-market forces and economic growth would have produced a similar chronology of rises and falls in income inequality even without shifts in the progressivity of redistribution through government. For economies starting from highly unequal property ownership, the development process lowers inequality. History suggests, however, that this may happen only once. Redistribution toward the poor tends to happen least in those times and polities where it would seem most justified by the usual goals of welfare policy.

Lobato, Ignacio N.

PD November 1997. **TI** A Nonparametric Test for I(0). **AU** Lobato, Ignacio N.; Robinson, Peter M. **AA** Lobato: University of Iowa. Robinson: London School of Economics. **SR** STICERD, London School of Economics Discussion Papers Series: EM/97/342; STICERD, Room R.415, London School of Economics and Political Science, Houghton Street, London WC2A 2AE, UK. **PG** 36. **PR** no charge. **JE** C12, C14, C22, C32. **KW** Nonparametric Testing. Weak Dependence. Long Memory. Cointegration.

AB There is frequently interest in testing that a scalar or vector time series is I(0), possibly after first-differencing or other detrending, while the I(0) assumption is also taken for granted in autocorrelation- consistent variance estimation. We propose a test for I(0) against fractional alternatives. The test is nonparametric and indeed makes no assumptions on spectral behavior away from zero frequency. It seems likely to have good efficiency against fractional alternatives, relative to other nonparametric tests. The test is given large sample justification, subjected to a Monte Carlo analysis of finite sample behavior, and applied to various empirical data series.

Loch, Christoph H.

PD March 1997. **TI** A Punctuated-Equilibrium Model of Technology Diffusion. **AU** Loch, Christoph H.; Huberman, Bernardo A. **AA** Loch: INSEAD. Huberman: Xerox PARC. **SR** INSEAD Working Papers: 97/31/TM; INSEAD, Research and Development Department, Boulevard de Constance, 77305 Fontainebleau, France. Website: www.insead.fr/Research. **PG** 21. **PR** no charge up to five copies, after five copies 18FF per working paper plus postage and VAT. **JE** D51, D81, L23, O33. **KW** Positive Externalities. Technology Diffusion. Uncertainty. Evolutionary Models. Equilibrium Models.

AB The authors present an evolutionary model of technology diffusion. An old and a new technology are available which improve their performance incrementally over time. Technology adopters make repeated choices between the two technologies based on their perceived performance. The performance of the new technology cannot be perfectly evaluated and is subject to uncertainty. Both technologies exhibit positive externalities, or performance benefits from other users adopting the same technology. The authors find that the superior technology will not necessarily be adopted broadly by the population. The externalities cause two stable usage equilibria to exist, one with the old technology being the standard and one with the new technology the standard. Punctuations, or sudden shifts, in these equilibria determine the patterns of technology diffusion. The time until an equilibrium punctuation occurs depends on the rate of incremental improvement of both technologies, and the system's inertia to switching between equilibria.

PD April 1997. **TI** Communication and Uncertainty in Concurrent Engineering. **AU** Loch, Christoph H.; Terwiesch, Christian. **AA** INSEAD. **SR** INSEAD Working Papers: 97/42/TM; INSEAD, Research and Development Department, Boulevard de Constance, 77305 Fontainebleau, France. Website: www.insead.fr/Research. **PG** 34. **PR** no charge up to five copies, after five copies 18FF per working paper plus postage and VAT. **JE** D24, D81, L15, L23. **KW** Communication. Concurrent Engineering. Uncertainty. Production.

AB The authors present an analytical model of concurrent engineering, where an upstream and a downstream task are overlapped to minimize time- to-market. The gain from overlapping activities must be weighed against the delay from rework that results from proceeding in parallel based on preliminary information. Communication reduces the negative effect of rework at the expense of communication time. The authors derive the optimal levels of concurrency combined with communication, and analyze how these two decisions interact in the presence of uncertainty and dependence. The model yields three main results. First, the authors present a dynamic decision rule for determining the optimal meeting schedule. Second they derive the optimal concurrency between activities when communication follows the optimal pattern described by their decision rule. Third, choosing communication and concurrency separately prevents achieving the optimal time-to-market, resulting in a need for coordination.

TI Measuring the Effectiveness of Overlapping Development Activities. **AU** Terwiesch, Christian; Loch, Christoph H.

TI Managing the Process of Engineering Change Orders: The Case of the Climate Control System in Automobile Development. **AU** Terwiesch, Christian; Loch, Christoph H.

Logue, Kyle

TI The Effects of Tax-Law Changes on Prices in the Property-Casualty Insurance Industry. **AU** Bradford, David; Logue, Kyle.

Lopez-de-Silanes, Florencio

TI Law and Finance. **AU** La Porta, Rafael; Lopez-de-Silanes, Florencio; Shleifer, Andrei; Vishny, Robert.

Lui, Francis

TI Hong Kong's Currency Board And Changing Monetary Regimes. **AU** Kwan, Yum; Lui, Francis.

Madani, Dorsati

TI Testing Endogenous Growth in South Korea and Taiwan. **AU** Feenstra, Robert C.; Madani, Dorsati; Yang, Tzu-Han; Liang, Chi-Yuan.

Malliaris, A. G.

PD July 1997. **TI** Methodological Issues in Asset Pricing: Random Walk or Chaotic Dynamics. **AU** Malliaris, A. G.; Stein, Jerome L. **AA** Malliaris: Loyola University. Stein: Brown University. **SR** Brown University, Department of Economics Working Paper: 97/20; Department of Economics, Brown University, Providence, RI 02912. **PG** 29. **PR** no charge. **JE** C11, C62, D80, D82, G12, G14. **KW** Asset Pricing. Market Efficiency. Randomness Chaos. Nonlinear Dynamics. Bayesian Analysis.

AB We analyze the theoretical foundations of asset pricing by stressing the role of the optimal use of information and its implications for price volatility. Define the Bayesian error as the difference between the subjective and objective expectations of the fundamentals driving the system. We explain the dynamics of the Bayesian error. This is the optimal learning process. Price volatility processes reflect the output of a higher order dynamical system with an underlying stochastic foundation. Specific economic scenarios within our general model may generate GARCH type processes or seemingly chaotic processes with a strange attractor, which can be interpreted statistically. Our statistical analysis of agricultural commodity markets show that neither the unspecified random walk nor the statistical chaos of a strange attractor is consistent with the evidence. Instead, our dynamic model in price volatility and Bayesian error has significant explanatory power in explaining what is "randomness".

Manski, Charles F.

TI Perceptions of Economic Insecurity: Evidence From the Survey of Economic Expectations. **AU** Dominitz, Jeff; Manski, Charles F.

Manzoni, Jean-Francois

TI The Balanced Scorecard and Tableau de Bord: A Global Perspective on Translating Strategy into Action. **AU** Epstein, Marc; Manzoni, Jean-Francois.

Marinucci, D.

TI Semiparametric Frequency Domain Analysis of Fractional Cointegration. **AU** Robinson, Peter M.; Marinucci, D.

Marion, Nancy P.

TI Speculative Attacks: Fundamentals and Self-Fulfilling Prophecies. **AU** Flood, Robert P.; Marion, Nancy P.

Markusen, James R.

PD August 1996. **TI** A Unified Treatment of Horizontal Direct Investment, Vertical Direct Investment, and the Pattern of Trade in Goods and Services. **AU** Markusen, James R.; Konan, Denise Eby; Venables, Anthony J.; Zhang, Kevin H. **AA** Markusen: University of Colorado and National Bureau of Economic Research. Konan: University of Hawaii at Manoa. Venables: London School of Economics. Zhang: University of Colorado. **SR** National Bureau of Economic Research Working Paper: 5696; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. Website: www.nber.org. **PG** 30. **PR** $5.00. **JE** F11, F13, F21, F23, F41. **KW** International Business. Investment. International Trade. Trade Liberalization.

AB This paper contributes to research endogenizing multinational firms in general- equilibrium trade models. We attempt to integrate separate contributions on horizontal multinationals which produce the same final product in multiple locations, with work on vertical multinationals, which geographically fragment production by stages. Previously derived results now emerge as special cases of a more general model. Vertical multinationals dominate when countries are very different in relative factor endowments. Horizontal multinationals dominate when the countries are similar in size and in relative endowments, and trade costs are moderate to high. In some cases, foreign investment or trade liberalization leads to a reversal in the direction of trade. Investment liberalization can also lead to an increase in the volume of trade and produces a strong tendency toward factor-price equalization. Thus direct investment can be a complement to trade in both a volume-of-trade sense and in a welfare sense.

Masini, A.

TI Simplified Life-Cycle Analysis of PV Systems in Buildings: Present Situation and Future Trends. **AU** Frankl, P.; Masini, A.; Gamberale, M.; Toccaceli, D.

Maskin, Eric

TI Wage Inequality and Segregation by Skill. **AU** Kremer, Michael; Maskin, Eric.

Matsuyama, Kiminori

PD August 1996. **TI** Why are There Rich and Poor Countries?: Symmetry-Breaking in the World Economy. **AA** Northwestern University and National Bureau of Economic Research. **SR** National Bureau of Economic Research Working Paper: 5697; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. Website: www.nber.org. **PG** 24. **PR** $5.00. **JE** F02, F14, F15, F41, O19. **KW** International Trade. Economic Integration. Inequality. Production Agglomeration.

AB To explain cross-country differences in economic performance, the economics of coordination failures typically portrays each country in a closed economy model with multiple equilibria and then argues that the poor countries are in an equilibrium inferior to those achieved by the rich. This approach cannot tell us anything about the degree of inequality in the world economy. A more satisfactory approach would be to build a world economy model and show why it has to be separated into the rich and the poor regions (i.e., to demonstrate the co-existence of the rich and poor as an inevitable aspect of the world trading system). In the present model, the symmetry-breaking of the world economy into the rich and the poor occurs because international trade causes agglomeration of different economic activities in different regions of the world. International trade thus creates a kind of "pecking order" among nations.

Mayer, Thomas

PD January 1997. **TI** The Rhetoric of Friedman's Quantity Theory Manifesto. **AA** University of California at Davis. **SR** University of California, Davis, Department of Economics Working Paper: 97/01; Department of Economics, University of California, Davis, CA 95616-8578. **PG** 24. **PR** $3.00 U.S. and Canada, $4.00 international; make checks payable to "Regents of the University of California.". **JE** B22, B31, B41, E10, E40. **KW** Quantity Theory. Friedman. Economic Rhetoric. Money.

AB In 1956 when Friedman published his "The Quantity Theory of Money: A Restatement", he faced a daunting task because of the widespread hostility to the quantity theory. This paper looks at the rhetoric (in the non-pejorative sense of the term) that he used to overcome this obstacle, and at some of the characteristics of the essay that contribute to its persuasiveness.

PD April 1997. **TI** Data Mining: A Reconsideration. **AA** University of California, Davis. **SR** University of California, Davis, Department of Economics Working Paper: 97/15; Department of Economics, University of California, Davis, CA 95616-8578. **PG** 16. **PR** $3.00 U.S. and Canada, $4.00 international; make checks payable to "Regents of the University of California.". **JE** B40, C12, C80. **KW** Data Mining. Fishing. Robustness. Fragility. Hypothesis Testing.

AB Before condemning data mining one should distinguish between objective and biased data mining. The former is commendable. Even biased data mining is appropriate when used to illustrate and not to test hypotheses. In the context of testing, the problem with biased data mining arises not from the fitting of many regressions, but from inadequate reporting of results. The trend towards reporting the results of more alternative specifications, and thus addressing the fragility problem, should be encouraged. To do that the incentives that economists face should be changed.

McAndrews, James J.

PD July 1997. **TI** Banking and Payment System Stability in an Electronic Money World. **AA** Federal Reserve bank of Philadelphia. **SR** Federal Reserve Bank of Philadelphia Research Working Paper: 97/09; Working Papers, Department of Research, Federal Reserve Bank of Philadelphia, 101 Independence Mall, Philadelphia, PA 19106. Website: www.phil.frb.org/econ/index.html. **PG** 44. **PR** no charge except overseas airmail, $3.00; checks/money orders in U.S. funds payable to Federal Reserve Bank of Philadelphia. **JE** G21, E42, E58. **KW** Payment System. Electronic Money.

AB Today we observe the rapid development of information-processing that are likely to displace, over time, many of the systems by which payment- related information is communicated. Indeed, stored-value systems, as well as credit-based and deposit account-based systems, that communicate instructions or transfer value over open communication and computer networks represent new techniques (based on encrypton schemes) to initiate payments. These new techniques hold a great deal of promise in that they potentially offer added convenience to the consumer. This promise is qualified by the question of whether these new means of payment add to the perennial risks of instability in the payment system and the banking system. The paper reviews some of the likely forms of emoney and provides an overview of systematic payment risk issues and their applicability to emoney systems. In addition, the variant experiences of payment and banking system stability in the Free Banking era and in the National Bank period are reviewed. The final section provides a discussion of lessons learned concerning banking and payment system regulation and control.

PD October 1997. **TI** A Model of Check Exchange. **AU** McAndrews, James J.; Roberds, William. **AA** McAndrews: Federal Reserve Bank of Philidelphia. Roberds: Federal Reserve Bank of Atlanta. **SR** Federal Reserve Bank of Philadelphia Research Working Paper: 97/16;

Working Papers, Department of Research, Federal Reserve Bank of Philadelphia, 101 Independence Mall, Philadelphia, PA 19106. Website: www.phil.frb.org/econ/index.html. **PG** 39. **PR** no charge except overseas airmail, $3.00; checks/money orders in U.S. funds payable to Federal Reserve Bank of Philadelphia. **JE** G21. **KW** Check Exchange. Delayed Presentment. Check Processing.

AB We construct and simulate a model of check exchange to examine the incentives a bank (or a bank clearinghouse) has to engage in practices that limit access to its payment facilities, in particular delaying the availability of check payment. The potentially disadvantaged bank has the option of directly presenting checks to the first bank. We find that if the retail banking market is highly competitive, the first bank will not engage in such practices, but if the retail banking market is imperfectly competitive, it will find it advantageous to restrict access to its facilities. Lower costs of direct presentment can reduce (but not eliminate) the range over which these practices are employed. The practice of delayed presentment can either reduce or increase welfare, again depending on the degree of competition in the market. The model suggests that, were the Federal Reserve System to exit the business of check processing, practices such as delayed presentment would be more prevalent.

McClellan, Mark

TI Insurance or Self-Insurance?: Variation, Persistence, and Individual Health Accounts. **AU** Eichner, Matthew; McClellan, Mark; Wise, David.

TI Are Medical Prices Declining? **AU** Cutler, David M.; McClellan, Mark; Newhouse, Joseph; Remler, Dahlia.

TI The Determinants of Technological Change in Heart Attack Treatment. **AU** Cutler, David M.; McClellan, Mark.

McCrorie, J. Roderick

PD December 1997. **TI** Deriving the Exact Discrete Analog of a Continuous Time System. **AA** London School of Economics. **SR** STICERD, London School of Economics Discussion Papers Series: EM/97/343; STICERD, Room R.415, London School of Economics and Political Science, Houghton Street, London WC2A 2AE, UK. **PG** 36. **PR** no charge. **JE** C32. **KW** Continuous Time. Exact Discrete Model. Random Measure. Matrix Exponential.

AB We present a method of deriving the exact discrete model satisfied by equispaced data generated by a system of linear stochastic differential equations without implying the usual restrictions on observed discrete data that are capable of being rejected by a statistical test. The method involves integrating the solution of the continuous time model in state space form, and relies on a non-standard change in the order of three types of integration as a means of representing the exact discrete model as an asymptotically time-invariant VARMA model. Applying to the state space form of the model, the method is general, and delivers a parsimonious representation of the exact discrete model in any particular case. It is applied by way of example to the prototypical higher order model for mixed stock and flow data discussed by Bergstrom.

PD December 1997. **TI** Interpolating Exogenous Variables in Open Continuous Time Dynamic Models. **AA** London School of Economics. **SR** STICERD, London School of Economics Discussion Papers Series: EM/97/344; STICERD, Room R.415, London School of Economics and Political Science, Houghton Street, London WC2A 2AE, UK. **PG** 32. **PR** no charge. **JE** C32. **KW** Continuous Time. Exact Discrete Model. Aliasing. Exogenous Variables. Interpolation.

AB As the exact discrete model induced by an open continuous time system depends on the continuous time paths of the exogenous variables, these need to be interpolated for the purpose of estimation. We examine some recently suggested forms of interpolation and find them not to be completely satisfactory. Accordingly, we extend to arbitrary degree the interpolant proposed by Bergstrom (Economic Theory, 1986). The resulting exact discrete model has a VARMAX representation, the order of whose exogenous variable component is the degree of the interpolating polynomial. This allows an optimum interpolant systematically to be selected on the basis of the data.

McFadden, Daniel L.

TI The Method of Simulated Scores for the Estimation of LDV Models. **AU** Hajivassiliou, Vassilis A.; McFadden, Daniel L.

Mercader-Prats, Magda

TI Equivalence of Scales and Inequality. **AU** Cowell, Frank A.; Mercader-Prats, Magda.

Mester, Loretta J.

TI Inside the Black Box: What Explains Differences in the Efficiencies of Financial Institutions? **AU** Berger, Allen N.; Mester, Loretta J.

TI Inside the Black Box: What Explains Differences in the Efficiencies of Financial Institutions? **AU** Berger, Allen N.; Mester, Loretta J.

TI On the Profitability and Cost of Relationship Lending. **AU** Berlin, Mitchell; Mester, Loretta J.

TI Efficiency and Productivity Change in the US Commercial Banking Industry: A Comparison of the 1980s and 1990s. **AU** Berger, Allen N.; Mester, Loretta J.

TI Recovering Risky Technologies Using the Almost Ideal Demand System: An Application to US Banking. **AU** Hughes, Joseph P.; Lang, William; Mester, Loretta J.; Moon, Choon - Geol.

TI Intermediation and Vertical Integration. **AU** Berlin, Mitchell; Mester, Loretta J.

Metrick, Andrew

PD August 1996. **TI** Price versus Quantity: Market Clearing Mechanisms When Sellers Differ In Quality. **AU** Metrick, Andrew; Zeckhauser, Richard. **AA** Metrick: Harvard University. Zeckhauser: Harvard University and National Bureau of Economic Research. **SR** National Bureau of Economic Research Working Paper: 5728; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. Website: www.nber.org. **PG** 30. **PR** $5.00. **JE** L15. **KW** Product Quality. Mutual Funds. Market Clearing.

AB High-quality producers in a vertically differentiated market can reap superior profits by charging higher prices, selling greater quantities, or both. If qualities are known by consumers and production costs are constant, then having a higher quality secures the producer both higher price and higher quantity; if marginal costs are rising, having a higher quality assures only higher price. If only some consumers can discern quality but others cannot, then high- and low-quality producers may set a common price, but the high-quality producer will sell more. In this context, quality begets quantity. Empirical analyses suggest that in both the mutual fund and automobile industries, high-quality producers sell more units than their low-quality competitors, but at no higher price (or markup) per unit.

Michelacci, Claudio

PD July 1997. **TI** Beta Convergence. **AU** Michelacci, Claudio; Zaffaroni, Paolo. **AA** Michelacci: London School of Economics and Universita Bocconi. Zaffaroni: London School of Economics. **SR** STICERD, London School of Economics Discussion Papers Series: EM/97/332; STICERD, Room R.415, London School of Economics and Political Science, Houghton Street, London WC2A 2AE, UK. **PG** 38. **PR** no charge. **JE** C22, C43, E10, O40. **KW** Growth. Convergence. Long Memory. Aggregation.

AB Unit roots in output, an exponential 2% rate of convergence and no change in the underlying dynamics of output seem to be three stylized facts that cannot coexist. This paper extends the Solow-Swan growth model allowing for cross-sectional heterogeneity. In this framework, aggregate shocks might vanish at a hyperbolic rather than at an exponential rate. This implies that the level of output can exhibit long memory and that standard tests fail to reject the null of a unit root despite mean reversion. Exploiting secular time series properties of GDP, we conclude that traditional approaches to test for uniform (conditional and unconditional) convergence suit first-step approximation. We show both theoretically and empirically how the uniform 2% rate of convergence repeatedly found in the empirical literature is the outcome of an underlying parameter of fractional integration strictly between 0.5 and 1. This is consistent with both time-series and cross-sectional evidence recently produced.

Mihov, Ilian

TI What Does the Bundesbank Target? **AU** Bernanke, Ben; Mihov, Ilian.

Milesi-Ferretti, Gian Maria

PD October 1996. **TI** Current Account Sustainability: Selected East Asian and Latin American Experiences. **AU** Milesi-Ferretti, Gian Maria; Razin, Assaf. **AA** Milesi-Ferretti: International Monetary Fund. Razin: Tel Aviv University and National Bureau of Economic Research. **SR** National Bureau of Economic Research Working Paper: 5791; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. Website: www.nber.org. **PG** 50. **PR** $5.00. **JE** F32, H62, O19. **KW** East Asia. Latin America. Current Account. Developing Countries. Sustainability.

AB A number of developing countries have run large and persistent current account deficits in both the late seventies/early eighties and in the early nineties, raising the issue of whether these persistent imbalances are sustainable. This paper puts forward a notion of current account sustainability and compares the experience of three Latin American Countries -- Chile, Colombia and Mexico -- and three East Asian countries -- Korea, Malaysia and Thailand. It identifies a number of potential sustainability indicators and discusses their usefulness in predicting external crises.

Miller, Cynthia

TI Child Support and Fathers' Remarriage and Fertility. **AU** Bloom, David; Conrad, Cecilia; Miller, Cynthia.

Miravete, Eugenio J.

PD April 1997. **TI** Estimating Demand for Local Telephone Service with Asymmetric Information and Optional Calling Plans. **AA** INSEAD. **SR** INSEAD Working Papers: 97/43/EPS; INSEAD, Research and Development Department, Boulevard de Constance, 77305 Fontainebleau, France. Website: www.insead.fr/Research. **PG** 56. **PR** no charge up to five copies, after five copies 18FF per working paper plus postage and VAT. **JE** D12, D42, D82, L96. **KW** Tariffs. Asymmetric Information. Uncertainty. Monopoly. Telecommunications.

AB This paper studies the theoretical and econometric implications of agents' uncertainty about their future consumption when a monopolist offers them either a unique, mandatory nonlinear tariff, or a choice in advance among a menu of optional nonlinear schedules. In this model, agents' uncertainty is resolved through individual and privately known shocks on their types. In such a situation the principal may screen agents according to their ex-ante or ex-post type, by offering either a menu of optional tariffs or a standard nonlinear schedule. The empirical approach explicitly accounts for the existence of informational asymmetries between local telephone users and the regulated monopolist, leading to different, nested, econometric specifications under symmetric and asymmetric information. The empirical evidence suggests that there exists a significant asymmetry of information between consumers and the monopolist under both tariff regimes. However, type shocks are not statistically significant.

Mitchell, Olivia

PD August 1996. **TI** Construction of the Earnings and Benefits File (EBF) for Use With the Health and Retirement Survey. **AU** Mitchell, Olivia; Olson, Jan; Steinmeier, Thomas. **AA** Michell: University of Pennsylvania and National Bureau of Economic Research. Olson: Social Security Administration. Steinmeier: Texas Tech University. **SR** National Bureau of Economic Research Working Paper: 5707; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. Website: www.nber.org. **PG** 31. **PR** $5.00. **JE** H55, I12, I31. **KW** Health. Retirement. Dataset. Social Security. Elderly Income.

AB Analysts using the Health and Retirement Survey (HRS) often require information on earnings, labor market attachment, and social security benefits in order to better understand the factors affecting retirement and well-being at older ages. To this end, several derived variables were constructed and documented in the Earnings and Benefits File (EBF) described here. The EBF provides a set of summary earnings, employment, and social security wealth measures for a subset of HRS respondents in Wave 1 of the survey, for whom administration records are available. The EBF, a restricted data file, is available from the University of Michigan's Institute for Social Research for matching only with versions of the HRS containing geographic detail no finer than the Census Division level. Interested users should contact hrsquest@umich.edu by email for further information on access to the data.

PD August 1996. TI Administrative Costs in Public and Private Retirement Systems. AA University of Pennsylvania and National Bureau of Economic Research. SR National Bureau of Economic Research Working Paper: 5734; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. Website: www.nber.org. PG 40. PR $5.00. JE G23, H55, J26. KW Retirement Systems. Pensions. Social Security. Mutual Funds. Administrative Costs.
AB This paper collects and analyzes available information on administrative costs associated with public and private retirement systems. The authors explore expenses of the U.S. social security system and compare these with data from national systems in other countries. They find that administration costs of publicly run social security systems vary a great deal across countries and institutional settings. A key factor influencing public old-age program costs is the system's scale: plans with more assets and more participants are less expensive. The authors also investigate expenses reported by U.S. pension plans and mutual funds, programs seen by many as alternative mechanisms for managing retirement saving. Based on an analysis of costs associated with retirement savings plans managed by financial institutions, they conclude that privately managed old-age retirement programs would be somewhat more costly to operate than current publicly-managed programs, depending on the program's specific design.

Mofitt, Robert

PD September 1996. TI The Decline of Welfare Benefits in the U.S.: The Role of Wage Inequality. AU Mofitt, Robert; Ribar, David; Wilhelm, Mark. AA Mofitt: Johns Hopkins University and National Bureau of Economic Research. Ribar: George Washington University. Wilhelm: Pennsylvania State University. SR National Bureau of Economic Research Working Paper: 5774; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. Website: www.nber.org. PG 25. PR $5.00. JE D72, H53, I38, J31. KW Wages. Welfare. Voter Preferences.
AB Welfare benefits in the U.S. have experienced a much-studied secular decline since the mid-1970's. We explore a new hypothesis for this decline related to the increase in wage inequality in the labor market and the decline of real wages at the bottom of the distribution: we posit that voters prefer benefits which are tied to low-skilled wages. We test the hypothesis using a 1969-1992 panel of state-level data. An additional contribution of our analysis is the use of General Social Survey data on voter preferences for welfare which we combine with Current Population Survey data to determine the voter in each state who has the median preferred welfare benefit level. Our analysis reveals considerable evidence in support of a role for declining real wages in the decline of welfare benefits.

Moon, Choon

TI Recovering Risky Technologies Using the Almost Ideal Demand System: An Application to US Banking. AU Hughes, Joseph P.; Lang, William; Mester, Loretta J.; Moon, Choon - Geol.

Moore, John

TI Default and Renegotiation: A Dynamic Model of Debt. AU Hart, Oliver; Moore, John.

Moran, Peter

PD February 1997. TI Value Creation by Firms. AU Moran, Peter; Ghoshal, Sumantra. AA Moran: INSEAD. Ghoshal: London Business School. SR INSEAD Working Papers: 97/19/SM; INSEAD, Research and Development Department, Boulevard de Constance, 77305 Fontainebleau, France. Website: www.insead.fr/Research. PG 55. PR no charge up to five copies, after five copies 18FF per working paper plus postage and VAT. JE D23, D24, D92, L11, L23. KW Value Creation. Resource Combination. Industrial Organization. Adaptive Efficiency. Institutional Pluralism.
AB This paper outlines a theory for how organizations, in general, and business firms, in particular, create economic value for themselves, for their members and for society. Drawing on the ideas of Schumpeter (1934), the authors develop a framework to describe value creation as consisting of the processes of (a) resource combination and (b) exchange, and they use the framework to show how firms can create value from a society's stock of resources beyond what markets alone can. The theory also offers an explanation of why neither a market nor a firm, by itself, can achieve adaptive efficiency (North, 1990), and why institutional pluralism -- in the form of a variety of firms of many different forms and sizes, coexisting in a state of creative tension in a broader institutional matrix -- is necessary for the healthy progress of societies.

TI Employment Security, Employability and Sustainable Competitive Advantage. AU Ghoshal, Sumantra; Moran, Peter; Bartlett, Christopher A.

TI Management Competence, Firm Growth and Economic Progress. AU Ghoshal, Sumantra; Hahn, Martin; Moran, Peter.

Morcom, Charles

TI Elephants. AU Kremer, Michael; Morcom, Charles.

Morgan, John

TI Implementing Results-Oriented Trade Policies: The Case of the US- Japanese Auto Parts Dispute. AU Krishna, Kala; Morgan, John.

Morton, Fiona Scott

PD July 1996. TI Entry and Predation: British Shipping Cartels 1879-1929. AA Stanford University and National Bureau of Economic Research. SR National Bureau of Economic Research Working Paper: 5663; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. Website: www.nber.org. PG 27. PR $5.00. JE D72, L13. KW Great Britain. Entry Deterrence. Industrial Organization. Oligopoly. Noncooperative Games.
AB The author examines the outcomes of cases of entry by merchant shipping lines into established markets around the turn of the century. These established markets are completely dominated by an incumbent cartel composed of several member shipping lines. The cartel makes the decision whether or not to begin a price war against the entrant; some entrants are formally admitted to the cartel without any conflict. The author uses characteristics of the entrant to predict whether or not the entrant will encounter a price war conditional on entering. She finds that weaker entrants are fought, where "weaker" means less financial resources, experience, size, or poor trade conditions. The empirical results provide support for the "long

purse" theory of predation. The author discusses qualitative evidence such as predatory intent expressed in correspondence between cartel members which supports the empirical results.

PD August 1996. **TI** The Strategic Response by Pharmaceutical Firms to the Medicaid Most-Favored-Customer Rules. **AA** Stanford University and National Bureau of Economic Research. **SR** National Bureau of Economic Research Working Paper: 5717; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. Website: www.nber.org. **PG** 30. **PR** $5.00. **JE** I11, I18, L65. **KW** Pharmaceuticals. Medicaid. Health.
AB In 1990 the Federal Government included a Most Favored Customer (MFC) clause in the contract (OBRA 90) which would govern the prices paid to firms for pharmaceutical products supplied to Medicaid recipients. Many theoretical models have shown that an MFC rule commits a firm to compete less aggressively in prices. We might expect prices to rise following the implementation of the MFC rule, yet to date this result has been somewhat difficult to show empirically. The author also concludes that the effects of the law are small and relatively weak; however, the results are strongest where the product's characteristics match the law's incentives. The author finds that after the MFC rule was implemented the average price of branded products facing generic competition rose. Brands protected by patents did not significantly increase price. The results suggest that the MFC rule resulted in higher prices to some non-Medicaid consumers of pharmaceuticals.

Mullin, Joseph

PD July 1996. **TI** United States Steel's Acquisition of the Great Northern Ore Properties: Vertical Foreclosure or Efficient Contractual Governance? **AU** Mullin, Joseph; Mullin, Wallace. **AA** Mullin, J.: Sidley and Austin. Mullin, W.: Michigan State University and National Bureau of Economic Research. **SR** National Bureau of Economic Research Working Paper: 5662; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. Website: www.nber.org. **PG** 42. **PR** $5.00. **JE** G31, G32, L14, L72, L92. **KW** Railroads. Steel Industry. Investment. Vertical Foreclosure. Contract Theory.
AB This paper examines United States Steel's acquisition by long-term lease of the iron ore properties of the Great Northern Railway. This 1906 transaction, which significantly increased U.S. Steel's already substantial ore holdings, has been characterized by contemporary observers and modern economists as an example of vertical foreclosure. We present quantitative and qualitative evidence to support an alternative view that the lease generated a net efficiency gain, resulting in lower steel prices, as it promoted relationship-specific investment in the exploitation of the ore properties. Quantitatively, we examine the stock market reactions of U.S. Steel, the Great Northern Railway, steel industry rivals, and the railroads, a major steel customer, to the announcement of the lease signing. Strikingly, the railroads had a significant positive excess return. Qualitatively, we examine the terms of the lease and the performance of the parties to document the role of the lease in encouraging relationship-specific investment.

Mullin, Wallace

TI United States Steel's Acquisition of the Great Northern Ore Properties: Vertical Foreclosure or Efficient Contractual Governance? **AU** Mullin, Joseph; Mullin, Wallace.

Mwabu, Germano

TI Education Returns Across Quantiles of the Wage Function: Alternative Explanations for Returns to Education by Race in South Africa. **AU** Schultz, Paul T.; Mwabu, Germano.

Nadiri, M. Ishaq

TI Index Number and Factor Demand Approaches to the Estimation of Productivity. **AU** Good, David H.; Nadiri, M. Ishaq; Sickles, Robin C.

PD October 1996. **TI** International R&D Spillovers, Trade and Productivity in Major OECD Countries. **AU** Nadiri, M. Ishaq; Kim, Seongjun. **AA** Nadiri: New York University and National Bureau of Economic Research. Kim: New York University. **SR** National Bureau of Economic Research Working Paper: 5801; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. Website: www.nber.org. **PG** 36. **PR** $5.00. **JE** D24, F13, F32, O32, O47. **KW** Research and Development. Knowledge Spillovers. Factor Demand. Trade Patterns.
AB In this paper the authors: (1) estimate the effects of international R&D spillovers on total factor productivity growth of the largest industrialized countries (G-7); (2) analyze the effect of spillovers on the structure of production, i.e., the effects on factor demand such as labor and investment and output supply; (3) examine the effect of technological transfers on the pattern of trade, i.e., on imports and exports and; (4) calculate the private rates of return on physical capital and R&D investment as well as the social rates of return of foreign R&D spillovers. To achieve the objectives of this study, the authors have developed a framework that integrates several strands of the available approaches in the literature: the GNP function approach suggested by Burgess (1974) and Kohli (1978), the spillover models proposed by Berstein and Nadiri (1988), Bernstein and Mohnen (1994), Coe and Helpman (1995), and the familiar interrelated factor demand and cost models.

Nakamura, Leonard I.

PD May 1997. **TI** The Measurement of Retail Output and the Retail Revolution. **AA** Federal Reserve Bank of Philadelphia. **SR** Federal Reserve Bank of Philadelphia Research Working Paper: 97/04; Working Papers, Department of Research, Federal Reserve Bank of Philadelphia, 101 Independence Mall, Philadelphia, PA 19106. Website: www.phil.frb.org/econ/index.html. **PG** 43. **PR** no charge except overseas airmail, $3.00; checks/money orders in U.S. funds payable to Federal Reserve Bank of Philadelphia. **JE** L81. **KW** Retail Output. Retail Productivity.
AB The computerization of retailing has made price dispersion a norm in the U.S., so that any given list price or transactions price is an increasingly imperfect measure of a product's resource cost. As a consequence, measuring the real output of retailers has become increasingly difficult. Food retailing is used as a case study to examine data problems in retail productivity measurement. Crude direct measures of grocery store output suggest that the CPI for food-at-home may have been overstated by 1.4 percentage points annually from 1978 to 1996.

PD November 1997. **TI** Economic Growth in Argentina in the Period 1900-30: Some Evidence From Stock Returns.

AU Nakamura, Leonard I.; Zarazaga, Carlos E. J. M. **AA** Nakamura: Federal Reserve Bank of Philidelphia. Zarazaga: Federal Reserve Bank of Dallas. **SR** Federal Reserve Bank of Philadelphia Research Working Paper: 97/22; Working Papers, Department of Research, Federal Reserve Bank of Philadelphia, 101 Independence Mall, Philadelphia, PA 19106. Website: www.phil.frb.org/econ/index.html. **PG** 43. **PR** no charge except overseas airmail, $3.00; checks/money orders in U.S. funds payable to Federal Reserve Bank of Philadelphia. **JE** N16, O47. **KW** Argentina. Stock Returns.

AB This reports the first stage of a project to recover Argentine stock market data for the entire 20th century. We find that real rates of return on Argentine Stocks and Bonds after 1920 were above those in the Belle Epoque, and they were consistent with the view that in the postwar period Argentina remained firmly integrated with international financial markets.

Nechyba, Thomas

PD June 1996. **TI** Public School Finance in a General Equilibrium Tiebout World: Equalization Programs, Peer Effects and Private School Vouchers. **AA** Stanford University and National Bureau of Economic Research. **SR** National Bureau of Economic Research Working Paper: 5642; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. Website: www.nber.org. **PG** 34. **PR** $5.00. **JE** D58, I22, I28. **KW** Education. Vouchers. Tiebout Model. Equity.

AB This paper uses computable general equilibrium simulations to investigate the effect of private school vouchers. It improves on past computational approaches by (i) endogenizing the funding of public schools through the modeling of an explicit political process at the school district level; (ii) embedding the private/public school choice in a Tiebout model in which agents also choose between communities that provide different public school/property tax packages; and (iii) allowing for a variety of different public school financing mechanisms ranging from purely local financing and control all the way to pure state funding. While voucher programs are shown to increase school-based stratification of agents, they tend to decrease residence-based stratification. This implies that untargeted vouchers may be equity- enhancing under some institutional settings even when there are no direct improvements in public school efficiency from increased competition.

Nehring, Klaus

PD January 1997. **TI** A Theory of Rational Choice Under Complete Ignorance. **AA** University of California, Davis. **SR** University of California, Davis, Department of Economics Working Paper: 97/02; Department of Economics, University of California, Davis, CA 95616-8578. **PG** 38. **PR** $3.00 U.S. and Canada, $4.00 international; make checks payable to "Regents of the University of California.". **JE** C78, D81. **KW** Rational Choice. Incomplete Preferences. Sure Thing Principle. Context Dependence. Uncertainty.

AB This paper contributes to a theory of rational choice under uncertainty for decision-makers whose preferences are exhaustively described by partial orders representing "limited information." Specifically, we consider the limiting case of "Complete Ignorance" decision problems characterized by maximally incomplete preferences and important primarily as reduced forms of general decision problems under uncertainty. "Rationality" is conceptualized in terms of a "Principle of Preference-Basedness," according to which rational choice should be isomorphic to asserted preference. The main result characterizes axiomatically a new choice-rule called "Simultaneous Expected Utility Maximization" which in particular satisfies a choice-functional independence and a context-dependent choice-consistency condition. It can be interpreted as the fair agreement in a bargaining game (Kalai-Smorodinsky solution) whose players correspond to the different possible states (respectively external priors in the general case).

TI Assessing the Truth Axiom Under Incomplete Information. **AU** Bonanno, Giacomo; Nehring, Klaus.

PD February 1997. **TI** Extended Partial Orders: A Unifying Structure for Abstract Choice Theory. **AU** Nehring, Klaus; Puppe, Clemens. **AA** Nehring: University of California, Davis. Puppe: University of Vienna. **SR** University of California, Davis, Department of Economics Working Paper: 97/06; Department of Economics, University of California, Davis, CA 95616-8578. **PG** 23. **PR** $3.00 U.S. and Canada, $4.00 international; make checks payable to "Regents of the University of California.". **JE** C60, D11, D80. **KW** Incomplete Preferences. Non-Binary Relations. Partial Orders. Properness. Choice Functions.

AB The concept of a strict extended partial order (SEPO) has turned out to be very useful in explaining (resp. rationalizing) non-binary choice functions. The present paper provides a general account of the concept of extended binary relations, i.e., relations between subsets and elements of a given universal set of alternatives. In particular, we define the concept of a weak extended partial order (WEPO) and show how it can be used in order to represent rankings of opportunity sets that display a "preference for opportunities." We also clarify the relationship between SEPO's and WEPO's, which involves a non-trivial condition, called "strict properness." Several characterizations of strict (and weak) properness are provided based on which we argue for properness as an appropriate condition demarcating "choice based" preference.

PD February 1997. **TI** On the Multi-Preference Approach to Evaluating Opportunities. **AU** Nehring, Klaus; Puppe, Clemens. **AA** Nehring: University of California at Davis. Puppe: University of Vienna. **SR** University of California, Davis, Department of Economics Working Paper: 97/07; Department of Economics, University of California, Davis, CA 95616-8578. **PG** 23. **PR** $3.00 U.S. and Canada, $4.00 international; make checks payable to "Regents of the University of California.". **JE** D11, D60, D80. **KW** Flexibility. Freedom of Choice. Opportunity Sets. Choice Functions. Multiple Preferences.

AB The purpose of this paper is to provide a general framework for analyzing "preference for opportunities." Based on two simple axioms a fundamental result due to Kreps is used in order to represent rankings of opportunity sets in terms of multiple preferences. The paper provides several refinements of the basic representation theorem. In particular, a condition of "closedness under compromise" is suggested in order to distinguish the flexibility interpretation of the model from normative interpretations which play a crucial role in justifying the intrinsic value of opportunities. Moreover, the paper clarifies the link between the multiple preference approach and the "choice function" approach to evaluating opportunities. In particular, it is shown how the well-known Aizerman/Malishevski result on rationalizability of choice functions can be obtained as a corollary from the more general multiple preference representation of a ranking of opportunity sets.

PD February 1997. **TI** Capacities and Probabilistic Beliefs: A Precarious Coexistence. **AA** University of California, Davis. **SR** University of California, Davis, Department of Economics Working Paper: 97/08; Department of Economics, University of California, Davis, CA 95616-8578. **PG** 24. **PR** $3.00 U.S. and Canada, $4.00 international; make checks payable to "Regents of the University of California.". **JE** D81. **KW** Ambiguity. Beliefs. Capacity. Expected Utility. Subjective Probability.

AB This paper raises the problem of how to define revealed probabilistic beliefs in the context of the capacity/Choquet Expected Utility model. At the center of the analysis is a decision-theoretically axiomatized definition of "revealed unambiguous events." The definition is shown to impose surprisingly strong restrictions on the underlying capacity and on the set of unambiguous events; in particular, the latter is always an algebra. Alternative weaker definitions violate even minimal criteria of adequacy. Rather than finding fault with the proposed definition, we argue that our results indicate that the CEU model is epistemically restrictive, and point out that analogous problems do not arise within the Maximin Expected Utility model.

PD March 1997. **TI** A Theory of Qualitative Similarity. **AA** University of California, Davis. **SR** University of California, Davis, Department of Economics Working Paper: 97/10; Department of Economics, University of California, Davis, CA 95616-8578. **PG** 28. **PR** $3.00 U.S. and Canada, $4.00 international; make checks payable to "Regents of the University of California.". **JE** C60, D11. **KW** Similarity. Ternary Relations. Betweenness. Convexity. Lattices.

AB The central result of this paper establishes an isomorphism between two types of mathematical structures: "ternary preorders" and "convex topologies." The former are characterized by reflexivity, symmetry and transitivity conditions, and can be interpreted geometrically as ordered betweenness relations. The latter are defined as intersection-closed families of sets satisfying an "abstract convexity" property. A large range of examples is given. As corollaries of the main result we obtain a version of Birkhoff's representation theorem for finite distributive lattices, and a qualitative version of the representation of ultrametric distances by indexed taxonomic hierarchies.

TI Agreeing to Disagree: A Survey. **AU** Bonanno, Giacomo; Nehring, Klaus

TI Introduction to the Semantics of Belief and Common Belief. **AU** Bonanno, Giacomo; Nehring, Klaus.

TI Epistemic Foundations of Solution Concepts in Game Theory: An Introduction. **AU** Bonanno, Giacomo; Nehring, Klaus.

Neiss, Katharine S.

PD November 1997. **TI** Discretionary Inflation in a General Equilibrium Model. **AA** University of British Columbia. **SR** University of British Columbia, Department of Economics, Discussion Paper: 97/04; University of British Columbia, Department of Economics, #997-1873 East Mall, Vancouver, BC, V6T 1Z1. Website: web.arts.ubc.ca/econ. **PG** 26. **PR** **JE** E52. **KW** Discretionary Inflation. Markups. Friedman Rule.

AB This paper extends the Barro and Gordon (1983) model to a general equilibrium framework in which the costs and benefits to surprise inflation reflect the preferences, technology, and market structure of the economy. The benefit of such an approach is that we can relate the underlying features of the economy to the size of the inflation bias. In particular, it can be shown that an increase in the source of the monetary authority's incentive to inflate does not necessarily result in a worsened inflation bias due to offsetting changes in the cost of inflation. Furthermore, changes in the real interest rate affect the monetary authority's incentives and hence the discretionary level of inflation. Lastly, we can show that an increase in the labor share of national income worsens the inflation bias. The model also indicates the importance of a nominal rigidity, lack of policy precommitment, and a distortion for optimal monetary policy to be characterized by a level of discretionary inflation that exceeds the Friedman (1969) rule.

Neumark, David

TI Wages, Productivity, and Worker Characteristics: Evidence from Plant- Level Production Functions and Wage Equations. **AU** Hellerstein, Judith; Neumark, David; Troske, Kenneth.

PD June 1996. **TI** Is the Time-Series Evidence on Minimum Wage Effects Contaminated by Publication Bias? **AU** Neumark, David; Wascher, William. **AA** Neumark: Michigan State University and National Bureau of Economic Research.. Wascher: Board of Governors of the Federal Reserve System. **SR** National Bureau of Economic Research Working Paper: 5631; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. Website: www.nber.org. **PG** not available. **PR** $5.00. **JE** C52, E24. **KW** Publication Bias. Minimum Wage. Employment. Specification. Spurious Evidence.

AB Publication bias in economics may lead to selective specification searches that result in overreporting in the published literature of results consistent with economists' priors. Some recent research has reported evidence consistent with publication bias and concluded that the most plausible explanation of this evidence is "editors' and authors' tendencies to look for negative and statistically significant estimates of the employment effect of the minimum wage." This paper presents results indicating that the evidence is more consistent with a change in the estimated minimum wage effect over time than with publication bias. More generally, it is demonstrated that existing approaches to testing for publication bias may generate spurious evidence of such bias when there are structural changes in some parameters. This paper suggests an alternative strategy for testing for publication bias that is more immune to structural change.

PD August 1996. **TI** Women Helping Women? Role-Model and Mentoring Effects on Female Ph.D. Students in Economics. **AU** Neumark, David; Gardecki, Rosella. **AA** Neumark: Michigan State University and National Bureau of Economic Research. Gardecki: Michigan State University. **SR** National Bureau of Economic Research Working Paper: 5733; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. Website: www.nber.org. **PG** 22. **PR** $5.00. **JE** A23, I20, J16. **KW** Female Economists. Graduate Students.

AB One potential method to increase the success of female graduate students in economics may be to encourage mentoring relationships between these students and female faculty members. Increased hiring of female faculty is viewed as one way to promote such mentoring relationships. A more direct method of promoting such relationships may be for female graduate students to have female faculty serve as dissertation chairs. The evidence in this paper addresses the question of whether either of these strategies results in more successful outcomes for female graduate students. With respect to characteristics of the institutions at which students are first placed when leaving graduate school, the empirical evidence provides no support for the hypothesis that outcomes for female graduate students are improved by adding female faculty members, or by having a female dissertation chair. However, in other respects, there is some limited evidence of beneficial effects of female faculty members.

Newhouse, Joseph

TI Are Medical Prices Declining? **AU** Cutler, David M.; McClellan, Mark; Newhouse, Joseph; Remler, Dahlia.

Nielsen, Lars Tyge

TI Parametric Characterizations of Risk Aversion and Prudence. **AU** Lajeri, Fatma; Nielsen, Lars Tyge.

PD February 1997. **TI** Differentiable Utility. **AA** INSEAD. **SR** INSEAD Working Papers: 97/28/FIN; INSEAD, Research and Development Department, Boulevard de Constance, 77305 Fontainebleau, France. Website: www.insead.fr/Research. **PG** 15. **PR** no charge up to five copies, after five copies 18FF per working paper plus postage and VAT. **JE** C61, D11, D81. **KW** Risk Premium. Expected Utility. Differentiability. Probability Premium. Optimization.

AB Differentiability is an important property of von Neumann-Morgenstern utility functions which is almost always imposed but has not been translated into behavioral terms. In applications, expected utility is usually maximized subject to a constraint. This paper presents two sets of necessary and sufficient conditions for a risk-averse von Neumann-Morgenstern utility function to be differentiable. The first of them is formulated in terms of the equivalent risk premia of small gambles. It says, in brief, that the equivalent risk premium is of a smaller order of magnitude than the risk itself, as measured by the expectation of the absolute value of the risk. The second set of necessary and sufficient conditions is formulated in terms of the probability premium of small lotteries. It says, essentially, that the probability premium for small binary lotteries goes to zero as the size of the lottery goes to zero.

PD February 1997. **TI** Monotone Risk Aversion. **AA** INSEAD. **SR** INSEAD Working Papers: 97/29/FIN; INSEAD, Research and Development Department, Boulevard de Constance, 77305 Fontainebleau, France. Website: www.insead.fr/Research. **PG** 19. **PR** no charge up to five copies, after five copies 18FF per working paper plus postage and VAT. **JE** C60, D11, D81, G11. **KW** Risk Aversion. Utility Functions.

AB The concept of decreasing absolute risk aversion can be defined in purely behavioral terms without any assumptions of differentiability. This paper shows that a strictly increasing and risk averse utility function with decreasing absolute risk aversion is necessarily differentiable with a positive and absolutely continuous derivative. The cumulative absolute risk aversion function, which is defined as the negative of the logarithm of the marginal utility, will also be absolutely continuous. Its density, called the absolute risk aversion density, is a generalization of the coefficient of absolute risk aversion, and it is well defined almost everywhere. A strictly increasing and risk averse utility function has decreasing absolute risk aversion if and only if it has a decreasing absolute risk aversion density, and if and only if the cumulative absolute risk aversion function is increasing and concave. This leads to a convenient characterization of all such utility functions.

PD April 1997. **TI** Portfolio Selection and Asset Pricing with Dynamically Incomplete Markets and Time-Varying First and Second Moments **AU** Nielsen, Lars Tyge; Vassalou, Maria. **AA** Nielsen: INSEAD. Vassalou: Columbia University. **SR** INSEAD Working Papers: 97/46/FIN; INSEAD, Research and Development Department, Boulevard de Constance 77305 Fontainebleau, France. Website: www.insead.fr/Research. **PG** 31. **PR** no charge up to five copies, after five copies 18FF per working paper plus postage and VAT. **JE** G11, G12, G13. **KW** Asset Pricing. Incomplete Markets. Portfolio Choice. Hedging. Fund Separation.

AB The authors simplify Merton's fund separation theorem to show that investors' optimal portfolio holdings will include only hedge funds that hedge against changes in the slope or the position of the instantaneous capital market line. If the capital market line is constant, then investors will hold only the riskless asset and the logarithmic portfolio. The results do not assume that the securities' prices are functions of a Markovian vector of state variables. The authors allow the markets to be dynamically incomplete. Based on their result, the authors redefine the concepts of the investment opportunity set and changes in the investment opportunity set in terms of the capital market line. They can also aggregate over investors and derive a single factor CAPM with a constant instantaneous capital market line, where the first and second moments of security returns may change stochastically over time and markets are potentially incomplete.

Nocke, Volker

PD February 1998. **TI** Underinvestment and Market Structure. **AA** London School of Economics. **SR** STICERD, London School of Economics Discussion Papers Series: EI/22; STICERD, Room R.415, London School of Economics and Political Science, Houghton Street, London WC2A 2AE, UK. **PG** 41. **PR** no charge. **JE** C73, D43, L13, O31. **KW** Dynamic Games. Investment. Entry. Industry Structure. Patents.

AB This paper analyzes a dynamic game of investment in R&D or advertising, where current investments change future market conditions. It investigates whether underinvestment can be supported in equilibrium by the threat of escalation in investment outlays. When there are no spillovers, or there is full patent protection, underinvestment equilibria are shown to exist even though, by deviating, a firm can get a persistent strategic advantage. When there are strong spillovers and weak patent protection, underinvestment equilibria fail to exist. This implies that weaker patent protection can actually lead to more investment in equilibrium. Furthermore, potential entry is introduced into the model so as to address the issue of market structure. It is shown that underinvestment equilibria can be stable with respect to further entry, independently of market size and entry costs. Finally, the "nonfragmentation" result of the static stage game is proved to hold in this dynamic game.

Nyarko, Yaw

TI Stepping Stone Mobility. **AU** Jonvanovic, Boyan; Nyarko, Yaw.

O'Brien, James M.

TI The Pre-Commitment Approach: Using Incentives to Set Market Risk Capital Requirements. **AU** Kupiec, Paul H.; O'Brien, James M.

Ohanian, Lee E.

TI Dynamic Equilibrium Economies: A Framework for Comparing Models and Data. **AU** Diebold, Francis X.; Ohanian, Lee E.; Berkowitz, Jeremy.

Oldale, Alison

PD January 1998. **TI** Local Bus Deregulation and Timetable Instability. **AA** London School of Economics. **SR** STICERD, London School of Economics Discussion Papers Series: EI/21; STICERD, Room R.415, London School of Economics and Political Science, Houghton Street, London WC2A 2AE, UK. **PG** 27. **PR** no charge. **JE** L43, L50, L92. **KW** Deregulation. Buses. Transportation. Timetables.

AB This paper presents a model of competition between operators on urban local bus routes in which passengers always board the first bus to arrive, and it is costly to revise timetables. The model predicts that timetables are unstable, the operator whose bus was boarded by the fewest passengers is the most likely to change its arrival time and to try to leapfrog its rivals by arriving just before them, and that there is a tendency for bus arrival times to be clustered together. These predictions are consistent with observed features of the on-the-road competition on urban local bus routes. On express coach routes, where passengers are more likely to research departure times before traveling, and to arrive at the coach station in order to catch their preferred coach, instability does not arise in the model, and has not been noted as a feature of competition in practice.

Olson, Jan

TI Construction of the Earnings and Benefits File (EBF) for Use With the Health and Retirement Survey. **AU** Mitchell, Olivia; Olson, Jan; Steinmeier, Thomas.

Orphanides, Athanasios

TI Earnings Forecasts and the Predictability of Stock Returns: Evidence from Trading the S&P. **AU** Lander, Joel; Orphanides, Athanasios; Douvogiannis, Martha.

Owen, Ann L.

TI Estimating Dynamic Panel Data Models: A Practical Guide for Macroeconomists. **AU** Judson, Ruth A.; Owen, Ann L.

Paarsch, Harry J.

TI The Effect of the Minimum Wage on the Distribution of Teenage Wages. **AU** Green, David A.; Paarsch, Harry J.

Pakes, Ariel

TI How to Count Patents and Value Intellectual Property: Uses of Patent Renewal and Application Data. **AU** Lanjouw, Jean O.; Pakes, Ariel; Putnam, Jonathan.

TI Environmental Change and Hedonic Cost Functions for Automobiles. **AU** Berry, Steven; Kortum, Samuel; Pakes, Ariel.

Panagariya, Arvind

TI A Unification of the Theory of Second Best. **AU** Krishna, Pravin; Panagariya, Arvind.

PD September 1997. **TI** On the Existence of Necessarily Welfare-Enhancing Free Trade Areas. **AU** Panagariya, Arvind; Krishna, Pravin. **AA** Panagariya: University of Maryland. Krishna: Brown University. **SR** Brown University, Department of Economics Working Paper: 97/25; Department of Economics, Brown University, Providence, RI 02912. **PG** 17. **PR** no charge. **JE** D50, F11, F13, H20. **KW** Trade Blocks. Welfare. Free Trade Areas. Customs Unions. Kemp-Wan Theorem.

AB This paper proves the existence of necessarily welfare improving Free Trade Areas (FTA's) and analyzes the implications of the formation of such FTA's for intra union prices and trade flows.

Papke, Leslie

PD August 1996. **TI** Are 401(K) Plans Replacing Other Employer-Provided Pensions? Evidence from Panel Data. **AA** Michigan State University and National Bureau of Economic Research. **SR** National Bureau of Economic Research Working Paper: 5736; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. Website: www.nber.org. **PG** 25. **PR** $5.00. **JE** G23, J26. **KW** Pension Plans. Defined Benefits. 401k's.

AB This paper examines whether sponsors of traditional defined benefit (DB) plans are replacing them with 401(k) or other defined contribution (DC) plans. The author compares pension plan offerings by sponsors of a DB plan in 1985 with their offerings in 1992 using Form 5500 filings from those two years. The author finds that 401(k) and other DC plans are substituting for terminated DB plans and that offering a DC plan of any type increases the probability of a DB termination. Thus, it appears that, at the sponsor level, many of the new 401(k) plans may not be avenues for net saving but are replacements for the more traditional pension forms. Using several specifications, the author estimates that a sponsor that starts with no 401(k) or other DC plan and adds a 401(k) is predicted to reduce the number of DB plans offered by at least 0.3.

Parker, Philip M.

TI Global Diffusion of Network Technologies: A Double-Hazard Approach. **AU** Dekimpe, Marnik G.; Parker, Philip M.; Sarvary, Miklos.

Parry, Ian

TI Revenue-Raising vs. Other Approaches to Environmental Protection: The Critical Significance of Pre-Existing Tax Distortions. **AU** Goulder, Lawrence; Parry, Ian; Burtraw, Dallas.

Parsley, David

PD July 1996. **TI** Convergence to the Law of One Price Without Trade Barriers or Currency Fluctuations. **AU** Parsley, David; Wei, Shang-Jin. **AA** Parsley: Vanderbilt University. Wei: Harvard University and National Bureau of Economic Research. **SR** National Bureau of Economic Research Working Paper: 5654; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. Website: www.nber.org. **PG** 15. **PR** $5.00. **JE** E21, F31. **KW** Purchasing Power Parity. Foreign Exchange.

AB Using a panel of 51 prices from 48 cities in the United States we provide an upper bound estimate of the rate of convergence to Purchasing Power Parity. We find convergence rates substantially higher than typically found in cross-country data. We investigate some potentially serious biases induced by i.i.d. measurement errors in the data, and find our estimates to be robust to these potential biases. We also present evidence that convergence occurs faster for larger price differences. Finally, we find that rates of convergence are slower for cities farther apart. However, our estimates suggest that distance alone can only account for a small portion of the much slower convergence rates across national borders.

Passmore, Wayne

TI The Community Reinvestment Act and the Profitability of Mortgage- Oriented Banks. **AU** Canner, Glenn; Passmore, Wayne.

PD April 1997. **TI** The Effect of Automated Underwriting on the Profitability of Mortgage Securitization. **AU** Passmore, Wayne; Sparks, Roger. **AA** Federal Reserve Board and Mills College. **SR** Board of Governors of the Federal Reserve System, Finance and Economics Discussion Paper Series: 1997/19; Ms. Karen Blackwell, FEDS Secretary, Mail Stop 77, Federal Reserve Board, Washington, DC 20551. Website: www.bog.frb.fed.us/pubs/feds. **PG** 30. **PR** no charge. **JE** G21, O31. **KW** Automated Underwriting. Credit Scoring. Mortgages. Securitization.

AB Over the past two years, many mortgage market analysts have praised automated underwriting as a technological innovation that will lower the costs of processing mortgage applications. However, automated underwriting is unlikely to decrease processing costs uniformly for all mortgage applications. Instead, it makes identifying and processing low-risk mortgage borrowers less costly, but may not significantly lower the costs of identifying and processing relatively high-risk applicants. Our results suggest that after the one-time cost reduction produced by automated underwriting the resulting mortgage market equilibrium is characterized by lower mortgage rates and lower profits for the mortgage securitizer.

Pathare, Amit

PD March 1997. **TI** 1995 and 1996 Software Best Practices Surveys: A Comparative Analysis of Results. **AU** Pathare, Amit; Dutta, Soumitra; Van Wassenhove, Luk N. **AA** INSEAD. **SR** INSEAD Working Papers: 97/39/TM; INSEAD, Research and Development Department, Boulevard de Constance, 77305 Fontainebleau, France. Website: www.insead.fr/Research. **PG** 18. **PR** no charge up to five copies, after five copies 18FF per working paper plus postage and VAT. **JE** L23, M11, O14, O33. **KW** Europe. Software. Best Practices.

AB The European Commission has been conducting an evaluation of the levels of adoption of software best practices across European organizations for the past couple of years. All organizations submitting a proposal under the ESSI Call for Proposals in 1995 and 1996 were requested to submit a completed Software Best Practice Questionnaire (SBPQ). This paper compares the results of the SBPQ for 1995 and 1996.

Perotti, Roberto

TI Fiscal Adjustments in OECD Countries: Composition and Macroeconomic Effects. **AU** Alesina, Alberto; Perotti, Roberto.

Persson, Mats

PD September 1996. **TI** Debt, Cash Flow and Inflation Incentives: A Swedish Example. **AU** Persson, Mats; Persson, Torsten; Svensson, Lars E. O. **AA** Persson, M.: Stockholm University. Persson, T. and Svensson: Stockholm University and National Bureau of Economic Research. **SR** National Bureau of Economic Research Working Paper: 5772; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. Website: www.nber.org. **PG** 37. **PR** $5.00. **JE** E31, E58, H63. **KW** Sweden. Debt. Inflation.

AB The fiscal gains from, and hence the political incentives to, an increase in the inflation rate of ten percentage points may be substantial: with Swedish data from 1994, these gains would have been an annual real flow of 3-4 percent of GDP, or a capitalized value of nearly 100 percent of GDP. They would mainly have arisen from the nominalistic features of the tax and transfer systems rather than from the traditional sources: seignorage and real depreciation of the public debt. The welfare costs of such an inflation increase would have been even larger, however, and would thus have reduced net welfare. Possible institutional reforms, aimed at making the political costs of inflation more equal to the social costs, are presented and discussed.

Persson, Torsten

TI Debt, Cash Flow and Inflation Incentives: A Swedish Example. **AU** Persson, Mats; Persson, Torsten; Svensson, Lars E. O.

Pesenti, Paolo

PD October 1996. **TI** Do Nontraded Goods Explain the Home Bias Puzzle? **AU** Pesenti, Paolo; van Wincoop, Eric. **AA** Pesenti: Princeton University and National Bureau of Economic Research. van Wincoop: Federal Reserve Bank of New York. **SR** National Bureau of Economic Research Working Paper: 5784; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. Website: www.nber.org. **PG** not available. **PR** $5.00. **JE** F32, G11, G15. **KW** Home Bias. Nontraded Goods. International Finance. Asset Returns.

AB Interpretations of the home bias puzzle in international finance have frequently focused on the role of fluctuations in domestic nontraded output, through their effects on the marginal utility of tradables consumption. This paper assesses the empirical relevance of this approach by deriving an explicit solution for the optimal international portfolio and applying the model to a set of fourteen OECD countries. Computing asset returns according to a "fundamentals" approach, it is possible to account for an average gap of no more than 10-15 percentage points between estimated domestic ownership shares and domestic shares under full diversification. When stock market data are directly used, the predicted coefficient of home bias shrinks to 3%.

Philipson, Tomas

TI The Private Demand for Information and the Effects of Public Testing Programs: The Case of HIV. **AU** Boozer, Michael; Philipson, Tomas.

TI An Empirical Examination of Information Barriers to Trade in Insurance. **AU** Cawley, John; Philipson, Tomas.

PD September 1996. **TI** Mortality Contingent Claims, Health Care, and Social Insurance. **AU** Philipson, Tomas; Becker, Gary. **AA** Philipson: University of Chicago and National Bureau of Economic Research. Becker: University of Chicago. **SR** National Bureau of Economic Research Working Paper: 5760; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. Website: www.nber.org. **PG** 22. **PR** $5.00. **JE** D91, E21, H55, I11, I12. **KW** Savings. Health Care. Annuities. Life Insurance. Contingent Claims.
AB This paper analyzes the savings and health care impacts of mortality contingent claims, defined here as income measures, such as annuities and life-insurance, under which earned income is contingent on the length of one's life. The postwar increase in mandatory annuity and life-insurance programs, as well as the rapid increase in life- expectancy, motivates a better understanding of the effects that mortality contingent claims have on resources devoted to life-extension. We analyze the incentives that such claims imply for life-extension when resources may affect mortality endogenously and argue that these incentives dramatically alter the standard conclusions obtained when mortality is treated exogenously.

Piccione, Michele

TI Equilibria in Networks. **AU** Hendricks, Ken; Piccione, Michele; Tan, Guofu.

Pillutla, Madan M.

TI Impact of Product-Harm Crises on Brand Equity: Threat or Opportunity? **AU** Dawar, Niraj; Pillutla, Madan M.

Pinkes, Joris

PD August 1997. **TI** Spatial Price Competition: A Semiparametric Approach. **AU** Pinkes, Joris; Slade, Margaret E.; Craig, Brett. **AA** Pinkes and Slade: University of British Columbia. Craig: University Essex. **SR** University of British Columbia, Department of Economics, Discussion Paper: 97/15; Department of Economics, University of British Columbia, #997-1873 East Mall, Vancouver, BC V6T 1Z1. Website: web.arts.ubc.ca/econ. **PG** 49. **PR** **JE** C12, C13, C14, L13, L81. **KW** Price Competition. Differentiated Products. Spatial Models. Series Estimators. Wholesale Gasoline.
AB We investigate the nature of price competition among firms that produce differentiated products and compete in local markets. We propose a series estimator for the matrix of cross-price response coefficients and demonstrate that our estimator is consistent. Our semiparametric approach allows us to discriminate among prominent theoretical models. In particular, we examine highly localized spatial models, symmetric monopolistically competitive models, and hybrids that lie between the two extremes. We apply our semiparametric estimator to data from U.S. wholesale gasoline markets and find that, in this market, competition is highly localized.

TI The Determinants of Municipal Tax Rates in British Columbia. **AU** Brett, Craig; Pinkes, Joris.

Poterba, James

PD July 1996. **TI** Demographic Structure and the Political Economy of Public Education. **AA** Massachusetts Institute of Technology and National Bureau of Economic Research. **SR** National Bureau of Economic Research Working Paper: 5677; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. Website: www.nber.org. **PG** not available. **PR** $5.00. **JE** H52, H72, I22, I28, J10. **KW** Educational Finance. Demographic Structure. Public Education. Educational Expenditure.
AB This paper examines the relationship between demographic structure and the level of government spending on K-12 education. Panel data for the U.S. states over the 1960-1990 period suggests that an increase in the fraction of elderly residents in a jurisdiction is associated with a significant reduction in per child educational spending. This reduction is particularly large when the elderly residents and the school-age populations are from different racial groups. Variation in the size of the school-age population does not result in proportionate changes in education spending, so students in states with larger school-age populations receive lower per-student spending than those in states with smaller numbers of potential students. These results provide support for models of generational competition in the allocation of public sector resources. They also suggest that the effect of cohort size on government-mediated transfers must be considered in analyzing how cohort size affects economic well-being.

PD September 1996. **TI** Individual Financial Decisions in Retirement Saving Plans and the Provision of Resources for Retirement. **AU** Poterba, James; Wise, David. **AA** Poterba: Massachusetts Institute of Technology and National Bureau of Economic Research. Wise: Harvard University and National Bureau of Economic Research. **SR** National Bureau of Economic Research Working Paper: 5762; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. Website: www.nber.org. **PG** 35. **PR** $5.00. **JE** D81, D91, E21, G23, H20. **KW** Savings. Annuities. 401k's. Retirement. Pension Funds.
AB Proposals for mandatory private saving accounts differ in the degree of investment discretion that they provide to savers, and in their provisions for annuitization of accumulated assets. With respect to investment choices, some argue that individuals must be prevented from investing too conservatively and earning low returns over their accumulation period, while others argue that individuals should be protected from recklessly investing their retirement assets. With respect to annuitization, there is concern that individuals might not choose annuities and would thereby expose themselves to a risk of outliving their assets in a privatized system. This paper draws on the existing experience with 401(k) plans and other defined contribution pension plans to provide evidence on these issues. The authors find that the share of 401(k) plan assets held in corporate equities has increased substantially in recent years. Participant's education and income levels are found to be related to asset allocation decisions.

Prendergast, Canice

PD September 1996. **TI** Non-Monetary Exchange Within Firms and Industry. **AU** Prendergast, Canice; Stole, Lars. **AA** Prendergast: University of Chicago and National Bureau of Economic Research. Stole: University of Chicago. **SR** National Bureau of Economic Research Working Paper: 5765; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. Website: www.nber.org. **PG** 21. **PR** $5.00. **JE** D20, D40, L13, L14, L21. **KW** Exchange. Non-Monetary Trade. Barter. Rent Seeking.

AB This paper considers why non-monetary means of exchange, such as barter and the reciprocation of favors, are chosen by firms despite the usual benefits of monetary transactions. We consider the chosen means of exchange when both monetary and non- monetary exchange mechanisms are available. We illustrate three potential reasons for the emergence of non-monetary trade. First, a willingness to barter may reveal information that cannot be revealed solely through monetary trade. Second, non- monetary trade may constrain the ability of agents to engage in inefficient rent-seeking activities. Finally, non-monetary trade improves the ability of agents to impose trade sanctions on those who act dishonestly. We consider a number of applicants of each of these ideas.

PD October 1996. **TI** What Happens Within Firms? A Survey of Empirical Evidence on Compensation Policies. **AA** University of Chicago and National Bureau of Economic Research. **SR** National Bureau of Economic Research Working Paper: 5802; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. Website: www.nber.org. **PG** 35. **PR** $5.00. **JE** D83, J24, J33, J41. **KW** Compensation Policy. Human Capital. Learning. Incentives. Contracts.

AB This paper provides an overview of empirical work dealing with the compensation policies of firms. This literature is considered from the perspective of three major theories: human capital, learning, and incentives. Considerable empirical work has addressed each of these theories with some success. However, our understanding of the effect of compensation on behavior and of the motivations for firms in choosing certain policies has been constrained by two important problems. First, the absence of data on contracts and performance has limited the ability of researchers to ask even the most basic question, Do Incentives Matter? Second, the available theoretical work has not been sufficiently oriented towards distinguishing between plausible alternatives, so that many observed facts are consistent with any of the major theories.

Propper, Carol

TI Early Health Related Behaviors and Their Impact on Later Life Chances: Evidence from the US. **AU** Burgess, Simon M.; Propper, Carol.

Puppe, Clemens

TI Extended Partial Orders: A Unifying Structure for Abstract Choice Theory. **AU** Nehring, Klaus; Puppe, Clemens.

TI On the Multi-Preference Approach to Evaluating Opportunities. **AU** Nehring, Klaus; Puppe, Clemens.

Putnam, Jonathan

TI How to Count Patents and Value Intellectual Property: Uses of Patent Renewal and Application Data. **AU** Lanjouw, Jean O.; Pakes, Ariel; Putnam, Jonathan.

Putterman, Louis

TI Values and Institutions in Economic Analysis: An Introduction. **AU** Ben-Ner, Avner; Putterman, Louis.

Quinzii, Martine

TI Buying Several Indivisible Goods **AU** Bevia, Carmen; Quinzii, Martine; Silva, Jose A.

Rajan, Raghuram

PD September 1996. **TI** Financial Dependence and Growth. **AU** Rajan, Raghuram; Zingales, Luigi. **AA** Rajan: Northwestern University and National Bureau of Economic Research. Zingales: University of Chicago and National Bureau of Economic Research. **SR** National Bureau of Economic Research Working Paper: 5758; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. Website: www.nber.org. **PG** 31. **PR** $5.00. **JE** F34, F43, O16, O47. **KW** Financial Sector. Growth. Development.

AB Does finance affect economic growth? A number of studies have identified a positive correlation between the level of development of a country's financial sector and the rate of growth of its per capita income. As has been noted elsewhere, the observed correlation does not necessarily imply a causal relationship. This paper examines whether financial development facilitates economic growth by scrutinizing one rationale for such a relationship, that financial development reduces the costs of external finance to firms. Specifically, we ask whether industrial sectors that are relatively more in need of external finance develop disproportionately faster in countries with more developed financial markets. We find this to be true in a large sample of countries over the 1980's. We show this result is unlikely to be driven by omitted variables, outliers, or reverse causality.

Ranis, Gustav

PD January 1996. **TI** Will Latin America Now Put A Stop to "Stop and Go?". **AA** Yale University. **SR** Yale Economic Growth Center Discussion Paper: 745; Economic Growth Center, Publications Office, Yale University, P.O. Box 208269, New Haven, CT 06520-2869. Website: www.library.yale.edu/socsci/egcpage.html. **PG** 22. **PR** $2.00 plus postage. **JE** O11, O12, O13, O16. **KW** Latin America. Structural Adjustment. Economic Reforms. Development.

AB This paper raises the question whether the current wave of macro- economic and structural reforms in Latin America should be viewed as a decisive change in the Continent's long-term development strategy or as part of but another stop-go cycle for which the Continent has been known in the past. While no unambiguous answer is provided, the paper outlines what is still needed in the way of persistent micro-economic policy change if political economy obstacles, including natural resource abundance and relatively easy access to foreign capital, are to be overcome.

PD January 1996. **TI** North-South Conflicts and Their Management. **AA** Yale University. **SR** Yale Economic Growth Center Discussion Paper: 746; Economic Growth Center, Publications Office, Yale University, P.O. Box 208269, New Haven, CT 06520-2869. Website: www.library.yale.edu/socsci/egcpage.html. **PG** 34. **PR** $2.00 plus postage. **JE** D74, F10, F21, F42, O34. **KW** North South Conflicts. International Trade. Capital Movements. Technology Transfer. Intellectual Property.

AB This paper accepts the premise that positive sum games exist in all dimensions of North-South economic contacts but that the management of conflicts concerning the distribution of the gains requires careful attention. It then proceeds to analyze the current state of play and the character of these conflicts in each of the main arenas, focusing heavily on trade, but also discussing public and private capital movements, technology transfer and intellectual property rights issues and labor mobility. It concludes with a discussion of possible changes in international institutions and governance.

Ravikumar, B.

TI Minimum Consumption Requirements: Theoretical and Quantitative Implications for Growth and Distribution. **AU** Chatterjee, Satyajit; Ravikumar, B.

Razin, Assaf

TI Current Account Sustainability: Selected East Asian and Latin American Experiences. **AU** Milesi-Ferretti, Gian Maria; Razin, Assaf.

Reber, Sarah

TI Paying for Health Insurance: The Tradeoff Between Competition and Adverse Selection. **AU** Cutler, David M.; Reber, Sarah.

Redding, Lee

TI Optimal Money Burning: Theory and Application to Corporate Dividend Policy. **AU** Bernheim, B. Douglas; Redding, Lee.

Remler, Dahlia

TI Are Medical Prices Declining? **AU** Cutler, David M.; McClellan, Mark; Newhouse, Joseph; Remler, Dahlia.

Ribar, David

TI The Decline of Welfare Benefits in the U.S.: The Role of Wage Inequality. **AU** Mofitt, Robert; Ribar, David; Wilhelm, Mark.

Riddell, W. Craig

TI Gross Flows of Labour in Canada and the United States. **AU** Jones, Stephen R. G.; Riddell, W. Craig.

Rob, Rafael

PD May 1997. **TI** Cooperation, Corporate Culture and Incentive Intensity. **AU** Rob, Rafael; Zemsky, Peter. **AA** Rob: University of Pennsylvania. Zemsky: INSEAD. **SR** INSEAD Working Papers: 97/51/EPS/SM; INSEAD, Research and Development Department, Boulevard de Constance, 77305 Fontainebleau, France. Website: www.insead.fr/Research. **PG** 30. **PR** no charge up to five copies, after five copies 18FF per working paper plus postage and VAT. **JE** D21, D23, D82, L23, M14. **KW** Altruism. Endogenous Preferences. Prisoner's Dilemma. Corporate Culture. History Dependence.

AB The authors develop a theory of the firm in which the willingness of workers to cooperate with each other plays a central role. They study a dynamic principal-agent problem. In each period, the firm chooses an incentive intensity (how much to pay workers per-unit of measured output) and the employees allocate effort between individual production and tasks that involve cooperating with other employees. Following the literature on organizational behavior, (i) employees are willing to engage in cooperative tasks even when these tasks are less effective at increasing their measured output and (ii) the level of cooperation is increasing in past levels of cooperation in the firm and decreasing in the incentive intensity. Hence, an increase in the incentive intensity does not just increase current effort, it has important dynamic consequences: future employee cooperativeness falls. The authors show how the firm balances these two effects to maximize its lifetime profits.

TI The Dynamics of Technological Adoption in Hardware/Software Systems: The Case of Compact Disc Players. **AU** Gandal, Neil; Kende, Michael; Rob, Rafael.

Roberds, William

TI A Model of Check Exchange. **AU** McAndrews, James J.; Roberds, William.

Robins, Philip K.

TI Do Financial Incentives Encourage Welfare Recipients to Work? Evidence From a Randomized Evaluation of the Self-Sufficiency Project. **AU** Card, David; Robins, Philip K.

Robinson, James A.

TI Long-Term Consequences of Population Growth: Technological Change, Natural Resources, and the Environment. **AU** Srinivasan, T. N.; Robinson, James A.

Robinson, Peter M.

PD January 1997. **TI** Time Series Regression with Long Range Dependencies. **AU** Robinson, Peter M.; Hidalgo, J. **AA** London School of Economics. **SR** STICERD, London School of Economics Discussion Papers Series: EM/97/318; STICERD, Room R.415, London School of Economics and Political Science, Houghton Street, London WC2A 2AE, UK. **PG** 36. **PR** no charge. **JE** C14, C15, C22. **KW** Long Range Dependence. Linear Regression. Generalized Least Squares. Nonlinear Regression.

AB A general limit theorem is established for time series regression estimates which include generalized least squares, in the presence of long range dependence in both errors and stochastic regressors. The setting and results differ significantly from earlier work on regression with long range dependent errors. Spectral singularities are permitted at any frequency. When sufficiently strong spectral singularities in the error and a regressor coincide at the same frequency, least squares need no longer be n to the 1/2-consistent, where n is sample size. However, we show that our class of estimates is n to the 1/2-consistent and asymptotically normal. In the generalized least squares case we show that efficient estimation is still possible when the error autocorrelation is known only up to infinitely many parameters. We include a Monte Carlo study of finite sample performance and provide an extension to nonlinear least squares.

PD January 1997. **TI** Modelling Nonlinearity and Long Memory in Time Series. **AU** Robinson, Peter M.; Zaffaroni, Paola. **AA** London School of Economics. **SR** STICERD, London School of Economics Discussion Papers Series: EM/97/319; STICERD, Room R.415, London School of Economics and Political Science, Houghton Street, London WC2A 2AE, UK. **PG** 18. **PR** no charge. **JE** C22. **KW** Long Memory. ARCH. Nonlinear Moving Average.

AB We discuss models that impart a form of long memory in raw time series x sub t or instantaneous functions thereof, in particular x sub t squared on the basis of a linear or nonlinear model. The capacity of linear models for x sub t to imply long-memory in nonlinear functions of x sub t is discussed. Empirical observation motivates investigation of models which lead to short memory, or even white noise x sub t but a long memory x sub t squared. One such model that we describe is based on the long memory generalized ARCH model introduced by Robinson (1991b). The other is an extension of the nonlinear moving average model of Robinson (1977).

PD January 1997. **TI** Nonlinear Time Series with Long Memory: A Model for Stochastic Volatility. **AU** Robinson, Peter M.; Zaffaroni, Paola. **AA** London School of Economics. **SR** STICERD, London School of Economics Discussion Papers Series: EM/97/320; STICERD, Room R.415, London School of Economics and Political Science, Houghton Street, London WC2A 2AE, UK. **PG** 22. **PR** no charge. **JE** C22, G11. **KW** Long Memory. Two-Shock Model. Stochastic Volatility. Time Series.

AB We introduce a nonlinear model of stochastic volatility within the class of "product type" models. It allows different degrees of dependence for the "raw" series and for the "squared" series, for instance implying weak dependence in the former and long memory in the latter. We discuss its main statistical properties with respect to the common set of stylized facts characterizing financial asset returns time series dynamics, and apply it to several series of asset returns.

TI Rate Optimal Semiparametric Estimation of the Memory Parameter of the Gaussian Time Series with Long Range Dependence. **AU** Giraitis, Liudas; Robinson, Peter M.; Samarov, Alexander.

PD September 1997. **TI** Large-Sample Inference for Nonparametric Regression with Dependent Errors. **AA** London School of Economics. **SR** STICERD, London School of Economics Discussion Papers Series: EM/97/336; STICERD, Room R.415, London School of Economics and Political Science, Houghton Street, London WC2A 2AE, UK. **PG** 40. **PR** no charge. **JE** C14, C22. **KW** Central Limit Theorem. Nonparametric Regression. Autocorrelation. Long Range Dependence.

AB A central limit theorem is given for certain weighted sums of a covariance stationary process, assuming it is linear in martingale differences, but without any restriction on its spectrum. We apply the result to kernel nonparametric fixed-design regression, giving a single central limit theorem which indicates how error spectral behavior at only zero frequency influences the asymptotic distribution, and covers long range, short range, and negative dependence. We show how the regression estimates can be studentized in the absence of previous knowledge of which form of dependence regime pertains, and show also that a simpler studentization is possible when long-range dependence can be taken for granted.

PD October 1997. **TI** Inference-Without-Smoothing in the Presence of Nonparametric Autocorrelation. **AA** London School of Economics. **SR** STICERD, London School of Economics Discussion Papers Series: EM/97/338; STICERD, Room R.415, London School of Economics and Political Science, Houghton Street, London WC2A 2AE, UK. **PG** 31. **PR** no charge. **JE** C22, C51. **KW** Autocorrelation. Variance Estimation. Long Range Dependence. Simultaneous Equations.

AB In a number of econometric models, rules of large-sample inference require a consistent estimate of f(0), where f of lambda is the spectral density matrix of y sub t equal to u sub t kronecker product x sub t for covariance stationary vectors u sub t, x sub t. Typically y sub t is allowed to have a nonparametric autocorrelation, and smoothing is used in the estimation of f(0). The authors give conditions under which f(0) can be consistently estimated without smoothing. The conditions are relevant to inference on slope parameters in models with an intercept and strictly exogenous regressors, and allow regressors and disturbances to collectively have considerable stationary long memory and to satisfy only mild, in some cases minimal, moment conditions. The estimate of f(0) dominates smoothed ones in the sense that it can have mean squared error of order n to the negative 1.

TI A Nonparametric Test for I(0). **AU** Lobato, Ignacio N.; Robinson, Peter M.

PD March 1998. **TI** Semiparametric Frequency Domain Analysis of Fractional Cointegration. **AU** Robinson, Peter M.; Marinucci, D. **AA** London School of Economics. **SR** STICERD, London School of Economics Discussion Papers Series: EM/98/348; STICERD, Room R.415, London School of Economics and Political Science, Houghton Street, London WC2A 2AE, UK. **PG** 52. **PR** no charge. **JE** C14, C15, C22. **KW** Fractional Cointegration. Frequency Analysis. Narrow Band Frequency. Time Series.

AB The concept of cointegration has principally been developed under the assumption that the raw data vector z sub 1 is I(1) and the cointegrating residual e sub 1 is I(0), but is also of interest in more general, including fractional, circumstances. Partitioning z sub 1 into a scalar y sub 1 and vector x sub 1, the authors consider a narrow-band frequency domain least squares estimate of y sub 1 on x sub 1. This estimate is consistent under stationary z sub 1, whereas least squares is inconsistent due to correlation between x sub 1 and e sub 1. This correlation does not prevent consistency of least squares when z sub 1 is nonstationary, but it produces a larger second order bias relative to the frequency domain estimate in the I(1)/I(0) case, and a slower rate of convergence in many circumstances in which z sub 1 exhibits less- than-I(1) nonstationarity. When e sub 1 is itself nonstationary, the two estimates have a common limit distribution.

Roemer, John E.

PD February 1997. **TI** The (Non-Parochial) Welfare Economics of Immigration. **AA** University of California, Davis. **SR** University of California, Davis, Department of Economics Working Paper: 97/05; Department of Economics, University of California, Davis, CA 95616-8578. **PG** 25. **PR** $3.00 U.S. and Canada, $4.00 international; make checks payable to "Regents of the University of California.". **JE** D60, F22, I31, J23, J61. **KW** Immigration. Political Economy. Welfare. Wages. Employment.

AB We study the effect of immigration on world welfare. The world consists of two areas, South and North, the former populated by low- skill workers, and the latter by both low and high skill workers. A trade union in the North keeps the wage

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of low-skill workers above the Walrasian wage, generating unemployment of low-skill workers. Citizens fund unemployment benefits through taxation. Immigration from South to North has two effects: a mixed native-foreign working-class lowers union power, and hence the union mark-up on the Walrasian wage; it also lowers the solidarity of the employed citizens with the unemployed (who now consist in part of non-natives) and thus the unemployment benefit. We calculate the optimal level of immigration, from the viewpoint of an observer who maximizes world welfare, according to several social welfare functions. The optimal level of immigration for a Rawlsian observer is significantly less than the open-borders equilibrium level.

PD March 1997. **TI** The Democratic Political Economy of Progressive Income Taxation. **AA** University of California, Davis. **SR** University of California, Davis, Department of Economics Working Paper: 97/11; Department of Economics, University of California, Davis, CA 95616-8578. **PG** 33. **PR** $3.00 U.S. and Canada, $4.00 international; make checks payable to "Regents of the University of California.". **JE** C72, D72, H20, P16. **KW** Progressive Taxation. Political Economy. Partial Orders. Preference Orders. Tax Policy.

AB Why do both left and right political parties almost always propose progressive income taxation schemes in political competition? Analysis of this problem has been hindered by the two-dimensionality of the issue space. To give parties a choice over a domain which contains both progressive and regressive policies requires an issue space that is at least two-dimensional. Nash equilibrium between two parties with (complete) preferences over two-dimensional policies fails to exist. I introduce a new equilibrium concept for political games, based on inner- party struggle. A party consists of three factions: reformists, militants, and opportunists. Each faction has a complete preference order on policy space, but together they can only agree on a partial order. Inner-party unity equilibrium is defined as Nash equilibrium between two parties, each of which maximizes with respect to its quasi- order. Such equilibria exist in the two-dimensional model and in them, both parties propose progressive income taxation.

PD September 1997. **TI** A Note on the Transfer of Power From Parties to Candidates. **AA** University of California, Davis. **SR** University of California, Davis, Department of Economics Working Paper: 97/23; Department of Economics, University of California, Davis, CA 95616-8578. **PG** 14. **PR** $3.00 U.S. and Canada, $4.00 international; make checks payable to "Regents of the University of California.". **JE** C72, D72, D82. **KW** Partisan Parties. Political Competition. Principal Agent. Technological Innovation.

AB It is commonly held that power has been transferred from political parties to candidates in the last fifty years, and that television is the cause. This paper constructs a game-theoretical model of political competition in which a technological innovation, like television, can have this effect. Political competition takes place between two teams, each consisting of a party and its candidate. The party is the principal, the candidate, the agent. Each party has policy preferences; candidates, however, wish solely to maximize the probability of victory, net of effort costs. Parties use campaign finance to motivate candidates to expend effort. The party chooses a schedule according to which it invests in the campaign as a function of the policy the candidate announces. Equilibrium is Nash equilibrium between parties, where the strategies are schedules (functions) of campaign financing, where each party is constrained by the actions its agent will take.

PD September 1997. **TI** Discretionary Power Causes Divergent Politics. **AA** University of California, Davis. **SR** University of California, Davis, Department of Economics Working Paper: 97/24; Department of Economics, University of California, Davis, CA 95616-8578. **PG** 13. **PR** $3.00 U.S. and Canada, $4.00 international; make checks payable to "Regents of the University of California.". **JE** C70, D72. **KW** Political Equilibrium. Partisan Politics. Discretionary Issues. Voter Preferences. Equilibrium Policies.

AB Consider electoral competition between two candidates, in which there is a single-dimensional issue space. The simplest way to get the result that, in Nash equilibrium, candidates propose different policies, is to assume that (1) candidates are uncertain about the distribution of voter preferences, and (2) candidates have preferences over policies. This note shows there is another interesting way to get the result of differentiated equilibrium policies. Assume there is a single-dimensional issue space in which candidates must announce a campaign issue, but there is also a discretionary issue, something on which no position will be taken during the campaign, but the victorious candidate will have the power to implement. It is shown that, if candidates differ on the discretionary issue and voters know that, then the positions the candidates will announce on the campaign issue will diverge.

PD September 1997. **TI** Trade Unions and Transfer Payments: When are They Reasons to Prefer Democracy to Dictatorship. **AA** University of California, Davis. **SR** University of California, Davis, Department of Economics Working Paper: 97/25; Department of Economics, University of California, Davis, CA 95616-8578. **PG** 19. **PR** $3.00 U.S. and Canada; $4.00 international; make checks payable to "Regents of the University of California.". **JE** C72, D72, J31, O10, P51. **KW** Democracy. Dictatorship. Social Choice. Trade Unions. Wages.

AB Under dictatorship, trade unions and strikes are illegal, and so wages are low and employment is full. Under democracy, there are two institutional innovations: trade unions, which can keep the wage above the Walrasian level, and the citizen franchise, by which citizens may vote transfer payments to the unemployed. This paper models the dictatorial equilibrium as Walrasian, and the democratic equilibrium as the Nash equilibrium of a game played between voters and union members. These two groups are different, because the polity consists of workers and asset-holders. In the move from dictatorship to democracy, the worker exchanges the sure thing of a low wage to a lottery between a higher wage and a transfer payment. The size of the coalition of workers that favors the democratic equilibrium over the dictatorial equilibrium, as a parameter of economic development increases, is calculated.

Romer, Christina D.

PD July 1996. **TI** Federal Reserve Private Information and the Behavior of Interest Rates. **AU** Romer, Christina D.; Romer, David H. **AA** University of California, Berkeley and National Bureau of Economic Research. **SR** National Bureau of Economic Research Working Paper: 5692; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. Website: www.nber.org. **PG** 37. **PR** $5.00. **JE** D82, E31, E43, E47, E52. **KW** Monetary Policy. Asymmetric Information. Inflation. Federal Reserve.

Signaling.
AB Many authors argue that asymmetric information between the Federal Reserve and the public is important to the conduct and the effects of monetary policy. This paper tests for the existence of such asymmetric information by examining Federal Reserve and commercial inflation forecasts. We demonstrate that the Federal Reserve has considerable information about inflation beyond what is known to commercial forecasters. We also provide evidence that monetary policy actions provide signals of the Federal Reserve's private information and that commercial forecasters modify their forecasts in response to those signals. These findings may explain why long-term interest rates typically rise in response to shifts to tighter monetary policy.

Romer, David H.
TI Federal Reserve Private Information and the Behavior of Interest Rates. **AU** Romer, Christina D.; Romer, David H.

TI Trade and Growth in East Asian Countries: Cause and Effect? **AU** Frankel, Jeffrey A.; Romer, David H.; Cyrus, Teresa.

Romer, Paul
TI Growth Cycles. **AU** Evans, George; Honkapohja, Seppo; Romer, Paul.

Rose, Andrew K.
TI Contagious Currency Crisis. **AU** Eichengreen, Barry; Rose, Andrew K.; Wyplosz, Charles.

TI The Endogeneity of the Optimum Currency Area Criteria. **AU** Frankel, Jeffrey A.; Rose, Andrew K.

TI Putting Things in Order: Patterns of Trade Dynamics and Growth. **AU** Feenstra, Robert C.; Rose, Andrew K.

Rosen, Sherwin
TI Unraveling In Assignment Markets. **AU** Li, Hao; Rosen, Sherwin.

Rosenbloom, Joshua
TI The Effects of Child-Bearing on Married Women's Labor Supply and Earnings: Using Twin Births As a Natural Experiment. **AU** Gangadharan, Jaisri; Rosenbloom, Joshua.

Rotemberg, Julio
PD June 1996. **TI** Perceptions of Equity and the Distribution of Income. **AA** Massachusetts Institute of Technology and National Bureau of Economic Research. **SR** National Bureau of Economic Research Working Paper: 5624; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. Website: www.nber.org. **PG** 34. **PR** $5.00. **JE** D63, D82, E24, E25, J31. **KW** Income Distribution. Wages. Productivity. Equity.
AB This paper builds a simple model where there is a connection between employees' perception of the "fairness" of employers and the actual distribution of income. Wages are based in part on employers' assessments of the productivity of individual employees. I show that the equilibrium distribution of income depends on the beliefs of employees concerning the accuracy of these evaluations. I give conditions under which the distribution of income across employees of the same vintage is more equal if employees believe that these evaluations are generally inaccurate (so that they are skeptical of capitalists in general) than when they believe that these evaluations are accurate. The model is consistent with the fact that, in a sample of seven countries, the distribution of income is more unequal in countries where people feel that income inequality is not too large.

PD June 1996. **TI** Imperfect Competition and the Effects of Energy Price Increases on Economic Activity. **AU** Rotemberg, Julio; Woodford, Michael. **AA** Rotemberg: Massachusetts Institute of Technology and National Bureau of Economic Research. Woodford: Princeton University and National Bureau of Economic Research. **SR** National Bureau of Economic Research Working Paper: 5634; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. Website: www.nber.org. **PG** 27. **PR** $5.00. **JE** J31, L13, O40, Q43. **KW** Neoclassical Growth. Imperfect Competition. Wages. Oil Prices.
AB We show that modifying the standard neoclassical growth model by assuming that competition is imperfect makes it easier to explain the size of the declines in output and real wages that follow increases in the price of oil. Plausibly parameterized models of this type are able to mimic the response of output and real wages in the United States. The responses are particularly consistent with a model of implicit collusion where markups depend positively on the ratio of the expected present value of future profits to the current level of output.

Roy, Marie Josee
TI Strategic Learning Through Corporate Environmental Management: Implementing the ISO 14001 Standard. **AU** Epstein, Marc; Roy, Marie Josee.

Ruhm, Christopher J.
PD July 1996. **TI** The Economic Consequences of Parental Leave Mandates: Lessons From Europe. **AA** University of North Carolina Greensboro and National Bureau of Economic Research. **SR** National Bureau of Economic Research Working Paper: 5688; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. Website: www.nber.org. **PG** 31. **PR** $5.00. **JE** J16, J23, J28, J31. **KW** Employment. Wages. Parental Leave. Europe.
AB This study investigates the economic consequences of parental leave mandates using data for 16 European countries over the 1969 through 1988 period. Since women use virtually all of the family leave in most nations, men constitute a reasonable comparison group and the natural experiment in most of the analysis involves examining how changes in leave entitlements affect the gap between female and male labor market outcomes. The employment-to-populations ratios of women in their prime childbearing years are also compared to those of older females, as a function of changes in leave regulations. Parental leave mandates are associated with increases in total employment but appear to have a more modest effect on weekly work hours and there is some evidence that women pay for entitlements to extended leave by receiving lower relative wages. The econometric estimates are sensitive to the inclusion of controls for time-varying country effects and sex-specific within-country time-trends.

Sachs, Jeffrey D.

PD February 1997. **TI** Understanding China's Economic Performance. **AU** Sachs, Jeffrey D.; Woo, Wing Thye. **AA** Sachs: Harvard University. Woo: University of California, Davis. **SR** University of California, Davis, Department of Economics Working Paper: 97/04; Department of Economics, University of California, Davis, CA 95616-8578. **PG** 51. **PR** \$3.00 U.S. and Canada, \$4.00 international; make checks payable to "Regents of the University of California.". **JE** O53, P20, P30. **KW** Chinese Growth. Gradualism. Big Bang. China.

AB Two schools of thought have emerged to interpret China's rapid growth. The experimentalist school attributes the successes to incremental experimentation and claims that resulting non-capitalist institutions have been successful in agriculture where land is not owned by the farmers, in township and village enterprises which are owned collectively by rural communities, and in state owned enterprises where increased competition and not privatization has been emphasized. The convergence school holds that China's successes come from its institutions being allowed to converge with those of non-socialist economies and that China's economic structure at the start of reforms is a major explanation for the rapid growth. China's gradualism and "innovative" non-capitalist institutions are responses to its political circumstances. Interestingly, China's recent policy trend is toward institutional harmonization rather than institutional innovation, suggesting that the government accepts that the ingredients for a dynamic market economy are already well-known.

Sala-i-Martin, Xavier

PD June 1995. **TI** The Classical Approach to Convergence Analysis. **AA** Yale University. **SR** Yale Economic Growth Center Discussion Paper: 734; Economic Growth Center, Publications Office, Yale University, P.O. Box 208269, New Haven, CT 06520-2869. Website: www.library.yale.edu/socsci/egcpage.html. **PG** 37. **PR** \$2.00 plus postage. **JE** O41, O51, O52, O53. **KW** Convergence. Regional Growth. Neoclassical Growth. Endogenous Growth.

AB The concepts of 229-convergence, absolute 254-convergence and conditional 254-convergence are discussed in this paper. The concepts are applied to a variety of data sets that include a large cross-section of 110 countries, the sub-sample of OECD countries, the states within the United States, the prefectures of Japan, and the regions within several European countries. Except for the large cross-section of countries, all data sets display strong evidence of 229-convergence and absolute 254-convergence. The cross-section of countries exhibits 229- divergence and conditional 254-convergence. The speed of conditional convergence, which is very similar across data sets, is close to two percent per year.

PD June 1995. **TI** Technological Diffusion, Convergence, and Growth. **AU** Sala-i-Martin, Xavier; Barro, Robert J. **AA** Sala-i-Martin: Yale University. Barro: Harvard University. **SR** Yale Economic Growth Center Discussion Paper: 735; Economic Growth Center, Publications Office, Yale University, P.O. Box 208269, New Haven, CT 06520-2869. Website: www. library.yale.edu/socsci/egcpage.html. **PG** 43. **PR** \$2.00 plus postage. **JE** O14, O31, O32, O34, O41. **KW** Technological Diffusion. Convergence. Growth Model. Research and Development.

AB We construct a model that combines elements of endogenous growth with the convergence implications of the neoclassical growth model. In the long run, the world growth rate is driven by discoveries in the technologically leading economies. Followers converge toward the leaders because copying is cheaper than innovation over some range. A tendency for copying costs to increase reduces followers' growth rate and thereby generates a pattern of conditional convergence. We discuss how countries are selected to be technological leaders, and we assess welfare implications. Poorly defined intellectual property rights imply that leaders have insufficient incentive to invent and followers have excessive incentive to copy.

PD August 1995. **TI** Tetanus, Death and Aerobics: The Evaluation of Disease-Specific Public Health Interventions. **AU** Sala-i-Martin, Xavier; Dow, William H.; Holmes, Jessica; Philipson, Tomas. **AA** Sala-i-Martin, Dow, Holmes: Yale University. Philipson: University of Chicago. **SR** Yale Economic Growth Center Discussion Paper: 736; Economic Growth Center, Publications Office, Yale University, P.O. Box 208269, New Haven, CT 06520-2869. Website: www.library.yale.edu/socsci/egcpage.html. **PG** 37. **PR** \$2.00 plus postage. **JE** I11, I12, I18. **KW** Complementarities. Disease-Specific Public Health Interventions. Tetanus Programs. Endogenous Mortality.

AB This paper provides a theoretical and empirical investigation of the positive complementarities between disease-specific policies introduced by competing risks of mortality. The incentive to invest in prevention against one cause of death depends positively on the level of survival from other causes. This means that a specific public health intervention has benefits other than the direct medical reduction in mortality: it affects the incentives to fight other diseases so the overall reduction in mortality will, in general, be larger than predicted by the direct medical effects. We discuss evidence of these cross-disease effects by using data on neo-natal tetanus vaccination through the Expanded Programme on Immunization of the World Health Organization.

Sales-Sarrapy, Carlos

PD September 1996. **TI** Pension System Reform: The Mexican Case. **AU** Sales-Sarrapy, Carlos; Solis-Soberon, Fernando; Villagomez-Amezcua, Alejandro. **AA** Sales-Sarrapy: Protego Investment Associates. Solis-Soberon: CONSAR. Villagomez- Amezcua: CIDE. **SR** National Bureau of Economic Research Working Paper: 5780; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. Website: www.nber.org. **PG** 53. **PR** \$5.00. **JE** G23, H55, J26, L33. **KW** Pensions. Mexico. Privatization. Defined Contributions.

AB The paper analyzes the Mexican pension reform of December 1995. Essentially, the reform substituted a defined-benefit pay-as-you-go system with a fully funded defined contribution system based on individual accounts with minimum pension guarantee provided by the government. Total contributions to the accounts will amount to 13.5 percent of the salary for the average worker plus 2.5 percent for disability and life insurance that will still be managed by the government's Social Security Institute (IMSS). The new system shares many common elements with other Latin American experiences. However, it shows that some advantages and disadvantages with respect to them. Regarding the advantages, the new system completely substitutes the old system; administrative costs are reduced; pension managers are allowed to operate several funds. Disadvantages include the prohibition of the funds from investing in foreign securities; the IMSS is the sole provider of disability and life insurance.

Samarov, Alexander

TI Rate Optimal Semiparametric Estimation of the Memory Parameter of the Gaussian Time Series with Long Range Dependence. **AU** Giraitis, Liudas; Robinson, Peter M.; Samarov, Alexander.

Samwick, Andrew

TI Executive Compensation, Strategic Competition, and Relative Performance Evaluation: Theory and Evidence. **AU** Aggarwal, Rajesh; Samwick, Andrew.

TI The Transition Path in Privatizing Social Security. **AU** Feldstein, Martin; Samwick, Andrew.

Santos, Jose

TI The Metanational Corporation. **AU** Doz, Yves; Asakawa, Kaz; Santos, Jose; Williamson, Peter.

Sarvary, Miklos

TI Global Diffusion of Network Technologies: A Double-Hazard Approach. **AU** Dekimpe, Marnik G.; Parker, Philip M.; Sarvary, Miklos.

Schafgans, Marcia M. A.

PD March 1997. **TI** Gender Wage Differences in Malaysia: Parametric and Semiparametric Estimation. **AA** London School of Economics. **SR** STICERD, London School of Economics Discussion Papers Series: EM/97/325; STICERD, Room R.415, London School of Economics and Political Science, Houghton Street, London WC2A 2AE, UK. **PG** 32. **PR** no charge. **JE** C13, C14, J16, J24, J31. **KW** Education. Wages. Gender. Discrimination. Malaysia.

AB This paper is an empirical study on the labor force in (Peninsular) Malaysia. It applies both parametric and semiparametric sample selection methods to the estimation of wage equations. These equations are then used to assess the extent of gender "discrimination" -- i.e., the part of the wage-gap that cannot be attributed to differences in wage determining characteristics. In order to establish a consistent estimate of the intercept of the outcome equation in the semiparametrically estimated sample selection model, the estimator suggested by Andrews and Schafgans (1996) is used. Both the parametric and semiparametric results suggest that "discrimination" favoring men in Malaysia is still quite prevalent. For Malays (the sons of the soil), on the other hand, the semiparametric estimation results negate the strong level of "discrimination" favoring Malay men obtained from the parametric results.

PD March 1997. **TI** Semiparametric Estimation of a Sample Selection Model: A Simulation Study. **AA** London School of Economics. **SR** STICERD, London School of Economics Discussion Papers Series: EM/97/326; STICERD, Room R.415, London School of Economics and Political Science, Houghton Street, London WC2A 2AE, UK. **PG** 48. **PR** no charge. **JE** C14, C15, C34. **KW** Sample Selection. Consistency. Semiparametric Estimation. Monte Carlo.

AB Standard approaches to the estimation of sample selection models are known to be inconsistent under non-normality. In particular, this paper considers the two-step Heckman (1976,1979) estimator of the intercept of the outcome equation. This estimator is compared with a consistent asymptotically normal semiparametric estimator suggested by Andrews and Schafgans (1996). Using a root mean squared error criterion, the semiparametric estimator performs better for a range of bandwidth parameter choices for a variety of distributions of the errors and regressors. For error distributions that are close to the normal, however, the two-step parametric estimator performs better.

Schankerman, Mark

PD January 1998. **TI** Stylized Facts of Patent Legislation: Value, Scope and Ownership. **AU** Schankerman, Mark; Lanjouw, Jean O. **AA** Schankerman: London School of Economics and European Bank of Reconstruction and Development. Lanjouw: Yale University. **SR** STICERD, London School of Economics Discussion Papers Series: EI/20; STICERD, Room R.415, London School of Economics and Political Science, Houghton Street, London WC2A 2AE, UK. **PG** 41. **PR** no charge. **JE** K41. **KW** Patents. Litigation.

AB This paper investigates the characteristics of litigated patents by combining for the first time information about case filings from the U.S. district courts and detailed data from the U.S. Patents and Trademark Office. A series of indicators is constructed for the factors which the theoretical literature suggests contribute to litigation: the frequency of disputes, the size and asymmetry of stakes, the structure of information, and costs. Compared to a random sample of US patents from the same cohorts and technology areas, it is found that more valuable patents and those with domestic owners are considerably more likely to be involved in litigation. Patents owned by individuals are at least as likely to be the subject of a case as corporate patents and litigation is particularly frequent in new technology areas. The results are interpreted with reference to theoretical models of litigation.

Schluter, Christian

PD April 1997. **TI** On the Performance of Social Benefit Systems. **AA** London School of Economics. **SR** STICERD, London School of Economics Discussion Papers Series: DARP/28; STICERD, Room R.415, London School of Economics and Political Science, Houghton Street, London WC2A 2AE, UK. **PG** 34. **PR** no charge. **JE** D31, D83, I31, J65. **KW** Unemployment Insurance. Pay-Roll Taxation. Poverty. Inequality. Welfare.

AB The paper analyses the performance of unemployment benefits systems in a search-theoretic framework. The criteria of evaluation comprise the alleviation of poverty and the reduction in income inequality, whilst the diversity of opinions about these is taken into account. Also, the trade-off between the attainment of social objectives and work incentives is examined.

PD April 1997. **TI** On the Non-Stationarity of German Income Mobility. **AA** London School of Economics. **SR** STICERD, London School of Economics Discussion Papers Series: DARP/30; STICERD, Room R.415, London School of Economics and Political Science, Houghton Street, London WC2A 2AE, UK. **PG** 41. **PR** no charge. **JE** C41, D31, I32. **KW** Distributional Mobility. Markovian Models. Transition Probabilities. Poverty. Germany.

AB The intra-distributional mobility of German income dynamics is analyzed using GSOEP. Transition probabilities are found to be time- varying. The tested models comprise various mixed Markov chains in discrete time and a non-stationary mover-stayer model is proposed. In order to explain the observed mobility profiles, we concentrate on one important income class -- the poor -- instead of the entire transition matrix. Various poverty duration models accommodating unobserved population heterogeneity and duration dependence are examined.

Schmalensee, Richard

TI Auction Design and the Market for Sulfur Dioxide Emissions. **AU** Joskow, Paul; Schmalensee, Richard; Bailey, Elizabeth.

Schmitt-Grohe, Stephanie

PD April 1997. **TI** Price Level Determinacy and Monetary Policy Under a Balanced Budget Requirement. **AU** Schmitt-Grohe, Stephanie; Uribe, Martin. **AA** Board of Governors of the Federal Reserve System. **SR** Board of Governors of the Federal Reserve System, Finance and Economics Discussion Paper Series: 1997/17; Ms. Karen Blackwell, FEDS Secretary, Mail Stop 77, Federal Reserve Board, Washington, DC 20551. Website: www.bog.frb.fed.us/pubs/feds. **PG** 25. **PR** no charge. **JE** E31, E42, E52, E63. **KW** Balanced Budget. Price Level. Fiscal Policy. Monetary Policy. Cash in Advance.

AB This paper analyzes the implications of a balanced budget fiscal policy rule for the determinacy of the price level in a cash-in-advance economy under three alternative monetary policy regimes. It shows that in such stylized models with flexible prices and a period-by-period balanced budget requirement the price level is determinate under a money growth rate peg and is indeterminate under a pure nominal interest rate peg. Under a feedback rule whereby the nominal interest rate is set as an increasing function of the inflation rate, the price level is determinate for intermediate values of the inflation elasticity of the feedback rule and is indeterminate for both very low and very high values of the inflation elasticity. Finally, regardless of the particular monetary policy specification, a rational expectations equilibrium consistent with the optimal quantity of money may not exist.

Schmukler, Sergio

TI Country Fund Discounts, Asymmetric Information and the Mexican Crisis of 1994: Did Local Residents Turn Pessimistic Before International Investors? **AU** Frankel, Jeffrey A.; Schmukler, Sergio.

Scholz, John Karl

TI Personal Bankruptcy and Credit Supply and Demand. **AU** Gropp, Reint; Scholz, John Karl; White, Michelle.

TI The Effects of Financial Education in the Workplace: Evidence from a Survey of Employers. **AU** Bayer, Patrick; Bernheim, B. Douglas; Scholz, John Karl.

TI The Effects of Tax-Based Saving Incentives on Saving and Wealth. **AU** Engen, Eric; Gale, William; Scholz, John Karl.

Schultz, Paul T.

PD January 1994. **TI** Demand for Children in Low Income Countries. **AA** Yale University. **SR** Yale Economic Growth Center Discussion Paper: 737; Economic Growth Center, Publications Office, Yale University, P.O. Box 208269, New Haven, CT 06520-2869. Website: www.library.yale.edu/socsci/egcpage.html. **PG** 116. **PR** $2.00 plus postage. **JE** I12, J13, J17, O15. **KW** Fertility Survey. Child Mortality. Family Planning.

AB Microeconomic theories of the demand for children emphasize several features of children in the context of a simplified model of family choice. The cost of children is heavily affected by the opportunity cost of the time of mothers, who in most societies contribute a disproportionate share of their time to child rearing. Increasing women's schooling and wage opportunities is consequently associated with lower demand for children. Children are an important vehicle for human capital investment; these dimensions of child "quality" appear to be substitutes for the numbers of children demanded by parents, and consequently rising returns to human capital.

PD July 1995. **TI** Accounting for Public Expenditures on Education: An International Panel Study. **AA** Yale University. **SR** Yale Economic Growth Center Discussion Paper: 742; Economic Growth Center, Publications Office, Yale University, P.O. Box 208269, New Haven, CT 06520-2869. Website: www.library.yale.edu/socsci/egcpage.html. **PG** 61. **PR** $2.00 plus postage. **JE** I21, I22, J24, O15. **KW** Educational Expenditures. Teacher Costs. Schooling Demands. Developing Countries. Sub-Saharan Africa.

AB Public expenditures on schooling are increasing more rapidly in the World than income, and more rapidly in the less developed countries than the industrially advanced countries. More interesting than the greater than one income elasticity of expenditures on public education is the negative unitary elasticity of the enrollment rate to the relative price of teachers. The price of teachers relative to the average worker's productivity has fallen markedly in many low income countries, particularly sub Saharan Africa, contributing to the observed expansion in enrollments in those regions. These estimates are estimated from changes within countries over the last several decades at both the primary and secondary school levels. Because the education sector produces its own major input, teachers, the growth of the sector creates, at least initially, a powerful internal economy of scale that reduces its unit costs and endogenously stimulates further sectoral growth.

PD August 1995. **TI** Fertility and Child Mortality in Cote D'ivoire and Ghana. **AU** Schultz, Paul T.; Benefo Kofi. **AA** Schultz: Yale University. Benefo: Brown University. **SR** Yale Economic Growth Center Discussion Paper: 738; Economic Growth Center, Publications Office, Yale University, P.O. Box 208269, New Haven, CT 06520-2869. Website: www.library.yale.edu/socsci/egcpage.html. **PG** 50. **PR** $2.00 plus postage. **JE** I12, J13, J16. **KW** Fertility Determinants. Child Mortality. Cote D'Ivoire. Ghana.

AB This paper examines individual, household, and community characteristics that may effect fertility in contemporary Cote d'Ivoire and Ghana. It also considers the relationship between child mortality and fertility, both under the assumption that child mortality is exogenous to the determination of fertility and alternatively that child mortality is endogenous and can be identified by community variation in health infrastructure, disease conditions, and food prices. Characteristics associated with income and wealth of the household are associated with decreases in fertility in Ghana but with increases in Cote d'Ivoire, suggesting that a resumption of growth may be associated with further fertility declines in Ghana but not necessarily in Cote d'Ivoire. It was not possible to reject the null hypothesis that child mortality is exogenous. Treating child mortality as exogenous, fertility responds directly to child mortality. The declines in child mortality associated with the mother's education are also smaller than in many investigations.

PD November 1995. **TI** Aging, Immigration and Women in the Labor Force: Japan Compared to Other OECD Countries. **AA** Yale University. **SR** Yale Economic Growth Center Discussion Paper: 743; Economic Growth Center, Publications Office, Yale University, P.O. Box 208269, New Haven, CT 06520-2869. Website: www.library.yale.edu/socsci/egcpage.html. **PG** 76. **PR** $2.00 plus postage. **JE** F22, J16, J21, J61, O53. **KW** Japan. Immigration. Female Labor. Employment.

AB Immigration, traditionally restricted in Japan, is today being discussed as a means for relaxing the limitation on labor force growth that the rapid aging of the population implies. This paper explores immigration and the alternative sources of growth in the Japanese labor force. Projecting past trends in female labor force participation into the future suggests that the supply of labor for the Japanese economy may continue to grow through the year 2020. Moreover, women in the labor force would seek full-time regular employment rather than part-time work, if regular employment opportunities for women improve. Examination of changes in the Japanese wage structure does not signal an increasing scarcity of young workers or those in particular labor-shortage industries. Public policies could reduce the adjustment burden for firms and families to accommodate an increase in women's long term involvement in the skilled labor force.

PD January 1996. **TI** Education Returns Across Quantiles of the Wage Function: Alternative Explanations for Returns to Education by Race in South Africa. **AU** Schultz, Paul T.; Mwabu, Germano. **AA** Schultz: Yale University. Mwabu: Kenyatta University. **SR** Yale Economic Growth Center Discussion Paper: 744; Economic Growth Center, Publications Office, Yale University, P.O. Box 208269, New Haven, CT 06520-2869. Website: www.library.yale.edu/socsci/egcpage.html. **PG** 24. **PR** $2.00 plus postage. **JE** I21, J24, J31. **KW** Quantile Regression. Returns to Schooling. South Africa. Education. Wages.

AB Private wage returns to schooling in South Africa in 1993 are twice as high for nonwhites as for whites and substantially higher at advanced levels of schooling for both races. To explore how these returns might be expected to change as the proportion of Africans with secondary and higher education increases, quantile regressions for the wage function are estimated for African males and white males. If the residuals based on a standard wage function specification are interpreted as omitted ability, and it is assumed that ability increases (decreases) returns to schooling, then we expect quantile returns to increase (decrease) at higher quantiles. This is not observed for Africans at the higher and secondary school level, but is evident among whites at higher educational levels. The opposite pattern of differential returns favoring the least able (i.e., lowest deciles) is reported for the lower tail of the educational distribution.

PD March 1996. **TI** Wage and Labor Supply Effects of Illness in Cote D'Ivoire and Ghana: Instrumental Variable Estimates for Days Disabled. **AU** Schultz, Paul T.; Tansel, Aysit. **AA** Schultz: Yale University. Tansel: Middle East University. **SR** Yale Economic Growth Center Discussion Paper: 757; Economic Growth Center, Publications Office, Yale University, P.O. Box 208269, Yale Station, New Haven CT 06520-8269. Website: www.library.yale.edu/socsci/egcpage.html. **PG** 43. **PR** $2.00 plus postage. **JE** I12, J24, J31. **KW** Health. Wages. Ghana. Cote D'Ivoire.

AB Sickness should make individuals less productive, but there are problems in measuring this effect. First, how is adult morbidity measured in a household survey? Second, how is the impact of morbidity on productivity inferred, if earning is partly used to improve health? Self-reported functional activity limitation due to illness is considered as an indicator or morbidity for wage earners and self employed. To deal with both the measurement and joint determination problems, an instrumental variable estimation approach is used where local food prices and health services instruments for disability days that reduce wages by at least 10 percent and hours by 3 or more percent.

Schutte, Hellmut

PD February 1997. **TI** Regional Headquarters of Japanese and Western MNCs: A Comparative Study. **AA** INSEAD. **SR** INSEAD Working Papers: 97/18/ABA; INSEAD, Research and Development Department, Boulevard de Constance, 77305 Fontainebleau, France. Website: www.insead.fr/Research. **PG** 44. **PR** no charge up to five copies, after five copies 18FF per working paper plus postage and VAT. **JE** L20, M10, M21, R30. **KW** Multinational Corporations. Japan. Business Management. Regional Headquarters.

AB This in-depth survey of 30 RHQ's in Asia and in Europe shows that the RHQ's of Japanese MNC's are less involved in shaping the regional perspective and in integrating operations in the region than the RHQ's of Western MNC's. RHQ's of Japanese MNC's were not staffed with more expatriates than those of Western MNC's, and in terms of the mind-set resemble those of Western MNC's. Japanese and Western MNC's use different organizational mechanisms in their RHQ's in dealing with the national units in the region, but the differences are less pronounced than expected. Overall the differences between Japanese and Western MNC's in terms of management of their RHQ's are small. This is confirmed by cluster analysis which shows that the difference in strength between the RHQ's of Western and Japanese MNC's is statistically insignificant.

Schwartz, Anna J.

PD August 1996. **TI** From Obscurity to Notoriety: A Biography of the Exchange Stabilization Fund. **AA** National Bureau of Economic Research. **SR** National Bureau of Economic Research Working Paper: 5699; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. Website: www.nber.org. **PG** 26. **PR** $5.00. **JE** F31, F33, F34. **KW** Foreign Exchange. International Lending. Exchange Stabilization Fund.

AB The U.S. Treasury's $20 billion loan to Mexico in January 1995 from the Exchange Stabilization Fund (ESF) brought to public notice the fund that had functioned in obscurity since its authorization by the Gold Reserve Act of January 31, 1934. The design of the ESF, as set forth in the statute, contributed to its obscurity. Its stated mission was to stabilize the exchange value of the dollar, but it has also assumed a role that had no mandate, that of lender to favored countries. ESF's intervention activities and the Federal Reserve's warehousing of ESF foreign currency assets are questionable. A statistical profile of the ESF accounts for the growth of its working balance from $200 million in 1934 to $42.6 billion in assets in 1995.

TI Why Clashes Between Internal and External Stability Goals End In Currency Crises, 1797-1994. **AU** Bordo, Michael; Schwartz, Anna J.

Segev, Arie

TI Transforming Business in the Marketspace: Strategic Marketing and Customer Relationships. **AU** Dutta, Soumitra; Kwan, Stephen; Segev, Arie.

Sen, Amartya

PD March 1997. **TI** Development Thinking at the Beginning of the 21st Century. **AA** Lamont University, Harvard University, and London School of Economics. **SR** STICERD, London School of Economics Discussion Papers Series: DERP/2; STICERD, Room R.415, London School of Economics and Political Science, Houghton Street, London WC2A 2AE, UK. **PG** 26. **PR** no charge. **JE** D60, O10. **KW** Economic Development. Hard States. Political Incentives. Public Discussion. Valuational Weights.

AB There has been a shift, in recent years, in the understanding of the process of development. It is not a switch (as often portrayed) from a state-dependent view of development to a market-reliant view. Rather, it involves rejecting a "blood, sweat, and tears" view of development in favor of celebrating people's agency and cooperation and the expansion of human freedom and capabilities. The market as an institution fits into this bigger picture. So do human rights and democratic values, especially as the vehicle of political incentives (complementing economic incentives). It involves, ultimately, a fuller view of human beings.

PD April 1997. **TI** What's the Point of a Development Strategy? **AA** Harvard University and London School of Economics. **SR** STICERD, London School of Economics Discussion Papers Series: DERP/3; STICERD, Room R.415, London School of Economics and Political Science, Houghton Street, London WC2A 2AE, UK. **PG** 35. **PR** no charge. **JE** D60, O10. **KW** Economic Development. Development Indicators. Capabilities. Valuation Weights.

AB Standard indicators of economic success leave out many aspects of development that are crucial to the well-being and freedom of citizens. We have to examine critically the ends as well as the means involved in development strategies. The impact of public education, health care, social security, etc. have to be seen both in terms of their direct effects on human capabilities and their indirect consequences on people's lives through raising productivity and earnings powers, and through helping to reduce the burden, especially on young women, of high fertility. The two aspects have to be considered together.

PD November 1997. **TI** Inequality, Unemployment and Contemporary Europe. **AA** Harvard University and London School of Economics. **SR** STICERD, London School of Economics Discussion Papers Series: DERP/7; STICERD, Room R.415, London School of Economics and Political Science, Houghton Street, London WC2A 2AE, UK. **PG** 32. **PR** no charge. **JE** D63, I31, J64. **KW** Unemployment. Individuality. Social Exclusion. Aging Population. Social Responsibility.

AB Inequality of incomes can differ substantially from inequality in other "spaces" such as well-being, freedom, health, longevity, and quality of life. Given the massive scale of unemployment in contemporary European economies, concentrating only on income inequality can be particularly deceptive for studying economic inequality, since unemployment causes deprivation in many other ways as well. This paper examines the different ways in which unemployment creates deprivation (other than through low income), and what implications these issues have on the relative merits of American and European attitudes respectively toward individual responsibility and social commitment.

PD November 1997. **TI** Hunger in the Contemporary World. **AA** Harvard University and London School of Economics. **SR** STICERD, London School of Economics Discussion Papers Series: DERP/8; STICERD, Room R.415, London School of Economics and Political Science, Houghton Street, London WC2A 2AE, UK. **PG** 24. **PR** no charge. **JE** I31, I32. **KW** Hunger. Undernourishment. Entitlement. Fertility. Political Incentives.

AB Economic analysis of hunger calls for an informationally broad approach that takes adequate account of the distinct interdependencies involved. This paper examines the interdependencies between (1) income and food consumption, (2) operations of different economic sectors, (3) production and trade in different countries, (4) macroeconomic stability and food security, (5) intrafamily distributional rules and the sharing of food and health care, (6) women's power and fertility behavior, (7) military expenditure and economic deprivation, (8) early undernourishment and its consequences on health and skills, (9) political incentives and the direction of government policy and (10) public activism and social commitment. The implications of these interconnections are briefly discussed.

Sercu, Piet

TI The Equilibrium Approach to Exchange Rates: Theory and Tests. **AU** Apte, Prakash; Sercu, Piet; Uppal, Raman.

Serrano, Roberto

TI Invariance and Randomness in the Nash Program for Coalition Games. **AU** Dagan, Nir; Serrano, Roberto.

PD April 1997. **TI** Abstract Equilibria, Interactive Choice Sets and Walrasian Allocations. **AU** Serrano, Roberto; Volij, Oscar. **AA** Brown University. **SR** Brown University, Department of Economics Working Paper: 97/09; Department of Economics, Brown University, Providence, RI 02912. **PG** 26. **PR** no charge. **JE** D51. **KW** Walrasian Allocations. Interactive Choice Sets. Abstract Equilibria. Recontracting. Finite Economies.

AB Economic theory describes price-taking agents as being negligible with respect to the total size of the economy. Consider, however, an economy with a finite number of agents, who starting from their initial endowments, imagine plausible trades that may take place among them. This introspective process yields what we call interactive choice sets, i.e., a set of bundles that each agent considers feasible for him, in the sense that a sequence of plausible trades with other agents yields those bundles. Based on this, we give a new proof of Theorem 1 in Dagan (1996), thereby characterizing Walrasian allocations as those compatible with global feasibility whenever each agent chooses optimally over his interactive choice set. Thus, the interactive thought process provides a way to replace the

Walrasian auctioneer, by giving a new interpretation of price-taking behavior. Interactive choice sets are generally strictly contained in budget sets. Allowing short sales, interactive choice sets can also be written as the sum of the initial endowments and a common set of new trades (anonymity). We extend the analysis to economies without short sales, where the characterization of Walrasian allocations requires extra assumptions and where the anonymity of interactive choice sets is lost.

TI Remarks on McLennan and Sonnenschein "Sequential Bargaining as a Non- Cooperative Foundation for Walrasian Equilibrium." **AU** Dagan, Nir; Serrano, Roberto; Volij, Oscar.

PD July 1997. **TI** Beyond Nash Bargaining Theory: The Nash Set. **AU** Serrano, Roberto; Shimomura, Ken-Ichi. **AA** Serrano: Brown University. Shimomura: Osaka University. **SR** Brown University, Department of Economics Working Paper: 97/18; Department of Economics, Brown University, Providence, RI 02912. **PG** 23. **PR** no charge. **JE** C71, C78. **KW** Nash Bargaining. Non-Convex Problems. Coalitional Games.

AB We extend Nash's bargaining theory to non-convex and coalitional problems. In doing so, we investigate the implications of using Nash- like axioms for bilateral problems and the properties of consistency and converse consistency over multilateral settings. The result is a characterization of the Nash set of NTU games, defines as the solution concept where each pair of players is splitting the gains from trade at a point where the Nash product of their utilities, subject to efficiency, is critical. (In particular case where feasible sets are convex and coalitions have no power, this yields the Nash solution). The intersection of the Nash set and the core is also characterized with the same axioms for the class of games where the core is non-empty.

Shaffer, Sherill

PD July 1997. **TI** Network Diseconomies and Optimal Structure. **AA** University of Wyoming. **SR** Federal Reserve Bank of Philadelphia Research Working Paper: 97/19; Working Papers, Department of Research, Federal Reserve Bank of Philadelphia, 101 Independence Mall, Philadelphia, PA 19106. Website: www.phil.frb.org/econ/index.html. **PG** 52. **PR** no charge except overseas airmail, $3.00; checks/money orders in U.S. funds payable to Federal Reserve Bank of Philadelphia. **JE** G21, L11. **KW** Network Diseconomies. Optimal Structure. Banking Industry.

AB This paper explores the effects on costs when firms within an industry must interact with each other in the normal course of business. Such interaction will generally cause the socially optimal scale of each firm to deviate from its minimum average cost scale. In addition, the socially optimal industry structure may be more concentrated than conventional firm-level cost studies would suggest and may also differ from the unregulated (free-entry) equilibrium structure. These concepts, while potentially applicable to several industries, are here made more precise for the banking industry, both theoretically and empirically.

PD November 1997. **TI** The Winner's Curse in Banking. **AA** University of Wyoming. **SR** Federal Reserve Bank of Philadelphia Research Working Paper: 97/25; Working Papers, Department of Research, Federal Reserve Bank of Philadelphia, 101 Independence Mall, Philadelphia, PA 19106. Website: www.phil.frb.org/econ/index.html. **PG** 45. **PR** no charge except overseas airmail, $3.00; checks/money orders in U.S. funds payable to Federal Reserve Bank of Philadelphia. **JE** D44. **KW** Winner's Curse. Adverse Selection.

AB Theoretical studies have noted that loan applicants rejected by one bank can apply at another bank, systematically worsening the pool of applicants faced by all banks. This paper presents the first empirical evidence of this effect and explores some additional ramifications, including the role of common filters, such as commercially available credit scoring models, in mitigating this adverse selection, implications for de novo banks, implications for banks' incentives to comply with fair lending laws, and macroeconomic effects.

Sharma, Naresh

TI Credit in Rural India: A Case Study. **AU** Dreze, Jean; Lanjouw, Peter; Sharma, Naresh.

Sheffrin, Steve

TI Interest Rates, Exchange Rates and Present Value Models of the Current Account. **AU** Bergin, Paul R.; Sheffrin, Steve

Shimomura, Ken-Ichi

TI Beyond Nash Bargaining Theory: The Nash Set. **AU** Serrano, Roberto; Shimomura, Ken-Ichi.

Shimpo, Kazushige

TI The Heckscher-Ohlin-Vanek Model of Trade: Why Does It Fail? When Does It Work? **AU** Davis, Donald R.; Bradford, Scott; Weinstein, David E.; Shimpo, Kazushige.

Shin, Hyun-Han

PD June 1996. **TI** An Analysis of Divisional Investment Policies. **AU** Shin, Hyun-Han; Stulz, Rene. **AA** Shin: University of Oregon. Stulz: Ohio State University and National Bureau of Economic Research. **SR** National Bureau of Economic Research Working Paper: 5639; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. Website: www.nber.org. **PG** 33. **PR** $5.00. **JE** E22, G31, L21, L23. **KW** Diversified Firms. Investment. Cash Flow. Corporate Finance.

AB This paper investigates the divisional policies of diversified firms. We find that investment of the smallest of diversified firms is significantly related to the cash flow of the other segments. We then show that the smallest division's investment is more sensitive to the cash flow of the other divisions for firms where one expects aggregate investment to be related to cash flow also, namely low q firms and firms with high leverage. This and other evidence we provide is consistent with what we call the bureaucratic rigidity hypothesis. This hypothesis states that relative allocations of investment funds in diversified firms are sticky. We fail to find support for the view that diversified firms allocate more funds to divisions in industries with better investment opportunities.

Shleifer, Andrei

TI Law and Finance. **AU** La Porta, Rafael; Lopez-de-Silanes, Florencio; Shleifer, Andrei; Vishny, Robert.

TI Law and Finance. **AU** La Porta, Rafael; Lopez-de-Silanes, Florencio; Shleifer, Andrei; Vishny, Robert.

TI The Proper Scope of Government: Theory and an

Application to Prisons. **AU** Hart, Oliver; Shleifer, Andrei; Vishny, Robert.

Sickles, Robin C.

TI Index Number and Factor Demand Approaches to the Estimation of Productivity. **AU** Good, David H.; Nadiri, M. Ishaq; Sickles, Robin C.

Silva, Jose A.

TI Buying Several Indivisible Goods **AU** Bevia, Carmen; Quinzii, Martine; Silva, Jose A.

Simon, John

TI Australia's Retirement Income System: Implications for Saving and Capital Markets. **AU** Edey, Malcolm; Simon, John.

Skinner, Jonathan S.

TI Assessing the Effectiveness of Saving Incentives. **AU** Hubbard, R. Glenn; Skinner, Jonathan S.

Slade, Margaret E.

PD January 1997. **TI** The Leverage Theory of Tying Revisited. **AA** University of British Columbia. **SR** University of British Columbia, Department of Economics, Discussion Paper: 97/09; Department of Economics, University of British Columbia, #997-1873 East Mall, Vancouver, BC V6T 1Z1. Website: web.arts.ubc.ca/econ. **PG** 26. **PR** **JE** D40, L10, L40, L60. **KW** Vertical Restraints. Tied Sales. Leverage Theory. Newspapers. Advertising.

AB I assess the private profitability of tying under circumstances where the standard efficiency defenses do not necessarily hold and demonstrate that tying is profitable under a wide range of circumstances. I also examine data from the Canadian newspaper-advertising industry and argue that price discrimination, cost saving, and quality control are unlikely motives for tying in this market. Nevertheless, with newspapers, tying and monopoly power go hand in hand.

TI Spatial Price Competition: A Semiparametric Approach. **AU** Pinkes, Joris; Slade, Margaret E.; Craig, Brett.

PD February 1998. **TI** Managing Projects Flexibly: An Application of Real-Option Theory. **AA** University of British Columbia. **SR** University of British Columbia, Department of Economics, Discussion Paper: 98/02; Department of Economics, University of British Columbia, #997-1873 East Mall, Vancouver, BC V6T 1Z1. Website: web.arts.ubc.ca/econ. **PG** 49. **PR** **JE** D21, G31, L72. **KW** Real Options. Contingent-Claims Analysis. Discounted-Cash Flow. Copper Mining. Unit Root. Panel Data.

AB The value of managerial flexibility is assessed empirically using data on prices, unit costs, ore extraction, grade, reserves, and metal output for a panel of twenty-one Canadian copper mines. A real-option model is estimated and solved to yield the value of the project as well as the option value that is associated with flexible operation. Most previous empirical researchers have considered the initial-investment decision but have neglected the possibility of flexible operation thereafter. Moreover, although they have assumed that price is stochastic, they have ignored cost and reserve uncertainty. Finally, they have modeled price as a geometric Brownian motion or other nonstationary process. Transition equations for three state variables, copper price, unit cost, and remaining reserves, are estimated here. Differences in assumptions compared to previous studies (stationary vs. nonstationary stochastic processes and flexible vs. inflexible operating policies) are found to lead to large differences in estimated project and option values.

Snyder, Christopher M.

TI Information Sharing and Competition in the Motor Vehicle Industry. **AU** Doyle, Maura P.; Snyder, Christopher M.

Snyder, James M.

TI Linear Probability of the Demand for Attributes with an Empirical Application to Estimating the Preferences of Legislators. **AU** Heckman, James J.; Snyder, James M.

Soberman, David A.

PD February 1997. **TI** Optimal Marketing Strategies for Static Information. **AA** INSEAD. **SR** INSEAD Working Papers: 97/25/MKT; INSEAD, Research and Development Department, Boulevard de Constance, 77305 Fontainebleau, France. Website: www.insead.fr/Research. **PG** 61. **PR** no charge up to five copies, after five copies 18FF per working paper plus postage and VAT. **JE** C70, D21, L14, L23, L86. **KW** Information Marketing. Advertising Competition. Customer Lists. Exclusive Contracts. Rolling Data.

AB Many firms are active in the preparation of household data bases or usage and attitude studies which they then market to manufacturers. Information like this is collected once and is relatively static from year to year. The objective of this paper is to analyze two different selling policies that information sellers employ to market or sell this information to manufacturers: an exclusive approach where the information is sold to a limited number of manufacturers or a penetration approach where the information is sold to many manufacturers. The author considers a stylized two-manufacturer industry where an exclusive strategy involves selling the information to only one and a penetration strategy involves making the information available to both. After the selling of the information, the manufacturers engage in a sequential marketing/price game in which the role of marketing is to inform consumers about the existence and attributes of products.

PD April 1997. **TI** Joint Research and Development: The Lure of Dominance. **AA** INSEAD. **SR** INSEAD Working Papers: 97/48/MKT; INSEAD, Research and Development Department, Boulevard de Constance, 77305 Fontainebleau, France. Website: www.insead.fr/Research. **PG** 28. **PR** no charge up to five copies, after five copies 18FF per working paper plus postage and VAT. **JE** L21, L23, O31, O32, O33. **KW** Research and Development. Entry Threat. Process Innovation. Entry Barriers. Strategic Cooperation.

AB This paper examines how the incentives of incumbent firms in an industry to jointly pursue research and development projects are affected by the potential entry of a new competitor who has access to existing production technology. The author considers a market with Cournot competition where two symmetric incumbents decide between the individual or joint pursuit of a stylized R&D project. After the completion of the R&D efforts, the entrant makes a decision about whether or not to enter the industry. A basic finding of Dixit (1979,1980) is recovered in this paper in that incumbents may alter their research and development policies to affect the decision of an entrant. Specifically, the threat of entry causes incumbents to increase their tendency to cooperate in the case of R&D projects that cannot prevent entry. Surprisingly however, with R&D projects that can prevent entry, the incidence of cooperation is unchanged.

Solis-Soberon, Fernando

TI Pension System Reform: The Mexican Case. **AU** Sales-Sarrapy, Carlos; Solis-Soberon, Fernando; Villagomez-Amezcua, Alejandro.

Sorensen, Bent E.

TI Efficient Method of Moments Estimation of a Stochastic Volatility Model: A Monte Carlo Study. **AU** Andersen, Torben G.; Chung, Hyung-Jin; Sorensen, Bent E.

PD May 1997. **TI** Federal Insurance of US States: An Empirical Investigation. **AU** Sorensen, Bent E.; Yosha, Oved. **AA** Sorensen: Brown University. Yosha: Brown University and Tel Aviv University. **SR** Brown University, Department of Economics Working Paper: 97/14; Department of Economics, Brown University, Providence, RI 02912. **PG** 18. **PR** no charge. **JE** E60, F33. **KW** Risk Sharing. Regional Economics. Fiscal Federalism. Monetary Union.

AB We investigate channels of federally provided income insurance for U.S. states, finding that a major part of federal insurance is provided through transfers. We compare the "bang for the buck" of various fiscal institutions, finding that unemployment benefits are dramatically more efficient in providing income insurance than any other fiscal institution. This finding suggests that with an appropriately designed income insurance scheme it may be possible to achieve considerable risk sharing in a future European Monetary Union with a relatively modest budget.

Sparks, Roger

TI The Effect of Automated Underwriting on the Profitability of Mortgage Securitization. **AU** Passmore, Wayne; Sparks, Roger.

Spencer, Barbara J.

PD August 1996. **TI** Quota Licenses for Imported Capital Equipment: Could Bureaucrats Ever do Better Than the Market? **AA** University of British Columbia and National Bureau of Economic Research. **SR** National Bureau of Economic Research Working Paper: 5695; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. Website: www.nber.org. **PG** 31. **PR** $5.00. **JE** F13, F41, O11, O19. **KW** Quotas. Import Licenses. Developing Countries.

AB Despite valid criticisms, many developing countries have issued non-transferable import licenses to a limited number of final-good producers so as to restrict imports of an input, such as capital equipment. This paper demonstrates that for a given import quota, such licensing restrictions can actually increase domestic production of both the input and the final product, but at the cost of reduced quota rents. Under pure competition, domestic welfare falls relative to the use of marketable quota licenses, but if foreigners would get the quota rents, or if external economies cause decreasing costs, then bureaucratic allocation can dominate.

Spiller, Pablo

TI Estimating the Welfare Effects of Digital Infrastructure. **AU** Greenstein, Shane; Spiller, Pablo.

Spolaore, Enrico

TI International Conflict, Defense Spending and the Size of Countries. **AU** Alesina, Alberto; Spolaore, Enrico.

Srinivasan, T. N.

PD November 1995. **TI** Long-Term Consequences of Population Growth: Technological Change, Natural Resources, and the Environment. **AU** Srinivasan, T. N.; Robinson, James A. **AA** Srinivasan: Yale University. Robinson: University of Southern California. **SR** Yale Economic Growth Center Discussion Paper: 748; Economic Growth Center, Publications Office, Yale University, P.O. Box 208269, New Haven, CT 06520-2869. Website: www.library.yale.edu/socsci/egcpage.html. **PG** 131. **PR** $2.00 plus postage. **JE** O13, O15, O33, Q20, Q30. **KW** Population. Resources. Environment. Development. Growth.

AB This paper studies the processes of population growth, technological progress, the utilization of natural resources and their impact on the environment more generally. All these processes are endogenous to the dynamic evolution of the economy and, as such, it is misleading to infer causality from their interaction. It is highly unlikely that the dynamics of extraction and utilization of resources and population growth will be efficient in most situations. Empirical knowledge of how social and economic processes interact with, and are embedded within, the environment is too limited for testing theoretical models of the forces at work. But it is enough to reject the hypothesis that population growth is bad for growth in per-capita income or for development. Possible deleterious effects of higher population growth seem to be offset by positive effects. The existence of a "population problem" has not been established either with theory or data.

PD April 1996. **TI** The Common External Tariff of a Custom Union: Alternative Approaches. **AA** Yale University. **SR** Yale Economic Growth Center Discussion Paper: 755; Economic Growth Center, Publications Office, Yale University, P.O. Box 208269, Yale Station, New Haven CT 06520-8269. Website: www.library.yale.edu/socsci/egcpage.html. **PG** 33. **PR** $2.00 plus postage. **JE** F13, F15, F36. **KW** Structural Adjustment. Stabilization. Development Banks. East Asia. Economic Integration.

AB The most prominent exception to the cardinal "most favored nation" principle of the General Agreement on Tariffs and Trade (GATT) of 1947 is in its Article XXIV relating to Customs Unions (CU's) and Free Trade Areas (FTA's). This article required, first, the general incidence of the duties and regulations of commerce imposed by members of the CU with respect to trade with non-members shall not on the whole be higher or more restrictive than those that were applicable prior to the formation of CU or FTA, and, second, that substantially all the trade among members be free. Neither requirement was very operational. This paper describes alternative approaches to the central question of common external tariffs of a CU. Taking off from work of Kemp and Wan, it characterizes a tariff structure for two leading benchmark examples as the consumption-weighted average of pre-union tariffs and subsidies in the member countries.

Stark, Tom

PD August 1997. **TI** Macroeconomic Forecasts and Microeconomic Forecasters in the Survey of Professional Forecasters. **AA** Federal Reserve Bank of Philadelphia. **SR** Federal Reserve Bank of Philadelphia Research Working Paper: 97/10; Working Papers, Department of Research, Federal Reserve Bank of Philadelphia, 101 Independence Mall, Philadelphia, PA 19106. Website: www.phil.frb.org/econ/index.html. **PG** 55. **PR** no charge except overseas airmail, $3.00; checks/money orders in U.S. funds payable to Federal Reserve Bank of Philadelphia. **JE** C53. **KW** Macroeconomic Forecasts. Professional Forecasters.

AB Do professional forecasters distort their reported forecasts in a way that compromises accuracy? New research in the theory of forecasting suggests such a possibility. In a recent paper, Owen Lamont finds that forecasters in the Business Week survey make more radical forecasts as they gain experience. In this paper, I use forecasts from the Federal Reserve Bank of Philadelphia's Survey of Professional Forecasters to test the robustness of Lamont's results. My results contradict Lamont's. However, careful examination of a methodological difference in the two surveys suggest a more general theory of forecasting that accounts for both sets of results.

Stein, Jerome L.

TI Methodological Issues in Asset Pricing: Random Walk or Chaotic Dynamics. **AU** Malliaris, A. G.; Stein, Jerome L.

Steinmeier, Thomas

TI Construction of the Earnings and Benefits File (EBF) for Use With the Health and Retirement Survey. **AU** Mitchell, Olivia; Olson, Jan; Steinmeier, Thomas.

Stern, Scott

TI Market Segmentation and the Sources of Rents from Innovation: Personal Computers in the Late 1980's. **AU** Bresnahan, Timothy; Stern, Scott; Trajtenberg, Manuel.

Stole, Lars

TI Non-Monetary Exchange Within Firms and Industry. **AU** Prendergast, Canice; Stole, Lars.

Stulz, Rene

TI An Analysis of Divisional Investment Policies. **AU** Shin, Hyun-Han; Stulz, Rene.

Svensson, Lars E. O.

PD August 1996. **TI** Price Level Targeting vs. Inflation Targeting: A Free Lunch? Wage. **AA** Stockholm University and National Bureau of Economic Research. **SR** National Bureau of Economic Research Working Paper: 5719; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. Website: www.nber.org. **PG** 19. **PR** $5.00. **JE** E24, E31, E58. **KW** Price Level. Inflation. Employment. Central Banks.

AB Price level targeting (without base drift) and inflation targeting (with base drift) are compared under commitment and discretion, with persistence in unemployment. Price level targeting is often said to imply more short-run inflation variability and thereby more employment variability than inflation targeting. Counter to this conventional wisdom, under discretion a price level target results in lower inflation variability than an inflation target (if unemployment is at least moderately persistent). A price level target also eliminates the inflation bias under discretion and, as is well known, reduces long-term price variability. Society may be better off assigning a price level target to the central bank even if its preferences correspond to inflation targeting. A price level target thus appears to have more advantages than commonly acknowledged.

TI Debt, Cash Flow and Inflation Incentives: A Swedish Example. **AU** Persson, Mats; Persson, Torsten; Svensson, Lars E. O.

PD October 1996. **TI** Inflation Forecast Targeting: Implementing and Monitoring Inflation Targets. **AA** Stockholm University and National Bureau of Economic Research. **SR** National Bureau of Economic Research Working Paper: 5797; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. Website: www.nber.org. **PG** 37. **PR** $5.00. **JE** E31, E37, E52, E58. **KW** Inflation. Targeting. Central Banks. Stabilization.

AB Inflation targeting is shown to imply inflation forecast targeting: the central bank's inflation forecast becomes an explicit intermediate target. Inflation forecast targeting simplifies both implementation and monitoring of monetary policy. The weight on output stabilization determines how quickly the inflation forecast is adjusted towards the inflation target. Money growth or exchange rate targeting is generally inferior to inflation targeting and leads to higher inflation variability. Commitment to "target rules" may be more effective than commitment to "instrument rules".

Symeonidis, George

PD June 1997. **TI** Price Competition and Market Structure: The Impact of Restrictive Practices Legislation on Concentration in the UK. **AA** London School of Economics and University of Essex. **SR** STICERD, London School of Economics Discussion Papers Series: EI/18; STICERD, Room R.415, London School of Economics and Political Science, Houghton Street, London WC2A 2AE, UK. **PG** 53. **PR** no charge. **JE** D40, L10, L60. **KW** Market Structure. Price Competition. Sunk Costs. Cartels. United Kingdom.

AB This paper examines the impact of firms' conduct on market structure. It studies the evolution of concentration in UK manufacturing following the abolition of cartels using a theoretical framework based on Sutton's theory of market structure and a panel data set of four-digit industries over 1958-1977. The econometric results suggest that the intensity of price competition has a positive impact on concentration in exogenous sunk cost industries as well as in advertising-intensive and R&D- intensive industries. The concentration-market size relationship, while negative in exogenous sunk cost industries, breaks down in industries with high advertising or R&D-intensity.

PD June 1997. **TI** Cartel Policy, Non-Price Competition and Market Structure: Theory and Evidence from the UK. **AA** London School of Economics and University of Essex. **SR** STICERD, London School of Economics Discussion Papers Series: EI/19; STICERD, Room R.415, London School of Economics and Political Science, Houghton Street, London WC2A 2AE, UK. **PG** 52. **PR** no charge. **JE** D40, L10, L60. **KW** Market Structure. Price Competition. Cartels. Sunk

Costs. Advertising. United Kingdom.

AB This paper examines the impact of price competition on advertising/R&D expenditure and market structure. General theoretical results are derived, which restrict the space of possible outcomes regarding the behavior of concentration and advertising/R&D expenditure following an intensification of price competition. The theoretical predictions are tested using UK data on the evolution of competition, concentration and advertising over 1954-1977. The econometric results suggest that the introduction of restrictive practices legislation in the UK caused a rise in concentration in previously cartelized high-advertising manufacturing industries and probably also a fall in advertising intensity.

Takagi, Shinji

PD August 1996. **TI** The Yen and Its East Asian Neighbors, 1980-95: Cooperation or Competition? **AA** Osaka University. **SR** National Bureau of Economic Research Working Paper: 5720; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. Website: www.nber.org. **PG** 23. **PR** $5.00. **JE** E31, E63, F31, F33, F41. **KW** East Asia. Japan. Currency Movements. Foreign Exchange. Price Stability.

AB By looking at how an East Asian currency moves when the yen fluctuates sharply against the U.S. dollar, we sometimes find that the reaction has been much more significant than would be suggested by the econometric estimates of the weight of the yen in nominal exchange rate determination. Moreover, the Korean won and the Malaysian ringgit have tended to move more closely with depreciating yen, suggesting the countries' emphasis on export promotion. The Singapore dollar, on the other hand, has tended to move more closely with an appreciating yen, underscoring the importance attached to price stability. The paper concludes that, given the trend appreciation of the yen during the recent past, emphasis on price stability has contributed more to monetary cooperation in Asia than emphasis on export promotion.

Tan, Guofu

TI Equilibria in Networks. **AU** Hendricks, Ken; Piccione, Michele; Tan, Guofu.

Tan, Li

TI Price and Trade Liberalization in East European Economies. **AU** Fardmanesh, Mohsen; Tan, Li.

Tansel, Aysit

TI Wage and Labor Supply Effects of Illness in Cote D'Ivoire and Ghana: Instrumental Variable Estimates for Days Disabled. **AU** Schultz, Paul T.; Tansel, Aysit.

Tay, Anthony S.

TI Evaluating Density Forecasts. **AU** Diebold, Francis X.; Gunther, Todd A.; Tay, Anthony S.

Taylor, Alan M.

PD September 1996. **TI** International Capital Mobility in History: Purchasing-Power Parity in the Long Run. **AA** Northwestern University and National Bureau of Economic Research. **SR** National Bureau of Economic Research Working Paper: 5742; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. Website: www.nber.org. **PG** 23. **PR** $5.00. **JE** F21, F31, F32. **KW** Exchange Rates. Foreign Exchange. Purchasing Power Parity. Capital Mobility.

AB This paper investigates purchasing-power parity (PPP) since the late nineteenth century for a sample of twenty countries, a broader sample of pooled annual data than has been studied before. Econometric results for time-series and panel samples allow us to test the robustness of the PPP hypothesis in different eras: the gold-standard, interwar, Bretton Woods, and the recent float. The evidence for PPP is mixed: Strong PPP, entailing stationarity of the real exchange rate, is not broadly supported, and real- exchange-rate dispersion shows counterintuitive historical patterns. However, not-much-weaker forms of PPP can be supported, with evidence of cointegration between different countries' common-currency price levels. Residual variances here confirm the conventional wisdom that the interwar period, particularly the Great Depression, represented the nadir of international capital market integration in the modern era.

PD September 1996. **TI** International Capital Mobility in History: The Saving-Investment Relationship. **AA** Northwestern University and National Bureau of Economic Research. **SR** National Bureau of Economic Research Working Paper: 5743; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. Website: www.nber.org. **PG** 27. **PR** $5.00. **JE** E22, F15, F21, F32. **KW** Capital Mobility. Market Integration.

AB Economic historians have been concerned with the evolution of international capital markets over the long run, but empirical testing of market integration has been limited. This paper augments the literature by investigating long- and short-run criteria for capital mobility using time-series and cross-section analysis of saving-investment correlation for twelve countries since 1850. The results present a nuanced picture of capital market evolution. The sample shows considerable cross-country heterogeneity. Broadly speaking, the inter-war period, and especially the Great Depression, emerge as an era of diminishing capital mobility, and only recently can we observe a tentative return on the degree of capital mobility witnessed during the late nineteenth century.

PD October 1996. **TI** Convergence and International Factor Flows in Theory and History. **AA** Northwestern University and National Bureau of Economic Research. **SR** National Bureau of Economic Research Working Paper: 5798; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. Website: www.nber.org. **PG** not available. **PR** $5.00. **JE** F21, F22, F43, N10, O40. **KW** Convergence. Growth. Factor Mobility.

AB Standard neoclassical growth models rarely admit international factor mobility: convergence may result from factor accumulation in a closed economy, or from technology transfer. Conventional models are thus poorly equipped to explain the contribution of international factor flows to convergence in history. A general model with many goods, multiple mobile factors and a fixed factor is developed. In response to recent historical research, a four-factor case is studied, with labor, capital, and resources as potentially mobile factors, and land fixed. The model is then explored in the context of recent historical analyses of the sources of long-run convergence and divergence.

PD October 1996. **TI** Sources of Convergence in the Late Nineteenth Century. **AA** Northwestern University and

National Bureau of Economic Research. **SR** National Bureau of Economic Research Working Paper: 5806; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. Website: www.nber.org. **PG** 31. **PR** $5.00. **JE** F43, N10, O40. **KW** Convergence. Growth. Economic History. Factor Accumulation.

AB Although the empirical growth literature has yielded many findings on postwar convergence patterns, it has had little to say about the determinants of convergence in earlier epochs. This paper investigates convergence for group of seven countries during the period 1870-1914, the last great phase of global convergence before the present postwar era. A standard empirical growth model, the Augmented Solow Model, which includes physical and human capital accumulation, proves unsatisfactory in this setting. An alternative neoclassical open-economy factor accumulation model is proposed, which admits capital and labor migration, and may be extended to include a moving frontier. The model explains the observed convergence pattern in the sample and suggests that factor accumulation patterns were the prime sources of labor productivity convergence from 1870 to 1914. The analysis gives little role to human capital, trade, or technological catch-up as important convergence mechanisms in this group of countries during the era studied.

Telmer, Chris

TI Affine Models of Currency Pricing. **AU** Backus, David; Foresi, Silverio; Telmer, Chris.

Temzelides, Ted

TI Private Money and Reserve Management in a Random Matching Model. **AU** Cavalcanti, Ricardo; Erosa, Andres; Temzelides, Ted.

Terwiesch, Christian

TI Communication and Uncertainty in Concurrent Engineering. **AU** Loch, Christoph H.; Terwiesch, Christian.

PD April 1997. **TI** Measuring the Effectiveness of Overlapping Development Activities. **AU** Terwiesch, Christian; Loch, Christoph H. **AA** INSEAD. **SR** INSEAD Working Papers: 97/47/TM; INSEAD, Research and Development Department, Boulevard de Constance, 77305 Fontainebleau, France. Website: www.insead.fr/Research. **PG** 20. **PR** no charge up to five copies, after five copies 18FF per working paper plus postage and VAT. **JE** D24, D81, L15, L23, L63. **KW** Communication. Concurrent Engineering. Uncertainty. Production. Overlapping Development.

AB Overlapping development activities is widely used to reduce project completion times in product development. However, research on the applicability of the concept in different technological environments remains scarce and so far very few industry specific studies have statistically confirmed an accelerating effect of overlap. In the present article, the authors statistically measure the effectiveness of overlapping development activities in reducing project completion time. Building on analytical research in Operations Management, they argue that this effectiveness differs with the organization's capability to resolve uncertainty early in the process; projects benefit more from overlap if they are able to resolve uncertainty early. This contingency view to overlapping development activities is tested based on data from 140 completed development projects across several global electronics industries.

PD June 1997. **TI** Managing the Process of Engineering Change Orders: The Case of the Climate Control System in Automobile Development. **AU** Terwiesch, Christian; Loch, Christoph H. **AA** INSEAD. **SR** INSEAD Working Papers: 97/56/TM; INSEAD, Research and Development Department, Boulevard de Constance, 77305 Fontainebleau, France. Website: www.insead.fr/Research. **PG** 24. **PR** no charge up to five copies, after five copies 18FF per working paper plus postage and VAT. **JE** L23, L62, M11. **KW** Development Process. Automobile Industry. Production Organization.

AB Engineering change orders (ECO's) are part of almost every development process, consuming a significant part of engineering capacity and contributing heavily to development and tool costs. Many companies use a support process to administer ECO's, which fundamentally determines ECO costs. The authors show in the case of climate control system development in a car, how a streamlined ECO management process can successfully complement the engineering efforts of avoiding and frontloading ECO's. This administrative process encompasses the emergence of a change (e.g., a problem or a market-driven feature change) to the final implementation of the ECO. The authors analyze this process, and identify three categories of problems which can substantially delay it: congestion, batching, and organizational structure. The authors explain and illustrate these problems in the case and propose methods of overcoming them.

Thomas, Duncan

TI Does Head Start Help Hispanic Children? **AU** Currie, Janet; Thomas, Duncan.

Tinsley, P. A.

TI Smart Systems and Simple Agents: Industry Pricing by Parallel Rules. **AU** Board, Raymond; Tinsley, P. A.

Toccaceli, D.

TI Simplified Life-Cycle Analysis of PV Systems in Buildings: Present Situation and Future Trends. **AU** Frankl, P.; Masini, A.; Gamberale, M.; Toccaceli, D.

Trajtenberg, Manuel

TI Flows of Knowledge from Universities and Federal Labs: Modeling the Flow of Patent Citations Over Time and Across Institutional and Geographic Boundaries. **AU** Jaffe, Adam; Trajtenberg, Manuel.

TI Market Segmentation and the Sources of Rents from Innovation: Personal Computers in the Late 1980's. **AU** Bresnahan, Timothy; Stern, Scott; Trajtenberg, Manuel.

TI Diffusion of General Purpose Technologies. **AU** Helpman, Elhanan; Trajtenberg, Manuel.

Troske, Kenneth

TI Wages, Productivity, and Worker Characteristics: Evidence from Plant- Level Production Functions and Wage Equations. **AU** Hellerstein, Judith; Neumark, David; Troske, Kenneth.

TI Technology and Jobs: Secular Changes and Cyclical Dynamics. **AU** Dunne, Timothy; Haltiwanger, John; Troske, Kenneth.

Turunen-Red, Arja H.

PD February 1997. **TI** Linear Aggregation of SSB Utility Functionals. **AU** Turunen-Red, Arja H.; Weymark, John A. **AA** Turunen-Red: University of New Orleans. Weymark: University of British Columbia. **SR** University of British Columbia, Department of Economics, Discussion Paper: 97/08; University of British Columbia, Department of Economics, #997-1873 East Mall, Vancouver, B.C. Canada V6T 1Z1. Website: web.arts.ubc.ca/econ. **PG** 12. **PR** **JE** D71, D81. **KW** Harsanyi's Theorem. Social Choice. Preference Aggregation. Nonexpected Utility. SSB Utility.

AB A necessary and sufficient condition for linear aggregation of SSB utility functionals is presented. Harsanyi's social aggregation theorem for von Neumann-Morgenstern utility functions is shown to be a corollary to this result. Two generalizations of Fishburn and Gehrlein's conditional linear aggregation theorem for SSB utility functionals are also established.

Tybout, James

TI Is "Learning-by-Exporting" Important? Micro-Dynamic Evidence from Colombia, Mexico, and Morocco. **AU** Clerides, Sofronis; Lach, Saul; Tybout, James.

Ueda, Masako

TI Contracts and Money. **AU** Jovanovic, Boyan; Ueda, Masako.

Uppal, Raman

TI The Equilibrium Approach to Exchange Rates: Theory and Tests. **AU** Apte, Prakash; Sercu, Piet; Uppal, Raman.

Uribe, Martin

TI Price Level Determinacy and Monetary Policy Under a Balanced Budget Requirement. **AU** Schmitt-Grohe, Stephanie; Uribe, Martin.

Valdes, Rodgrigo

TI The Aftermath of Appreciations. **AU** Goldfajn, Ilan; Valdes, Rodgrigo.

Van Leynseele, Tania

TI Eco-Efficiency, Double Dividends and the Sustainable Firm. **AU** Ayres, Robert U.; Van Leynseele, Tania.

TI Eco-Efficiency, Asset Recovery and Remanufacturing. **AU** Ayres, Robert U.; Ferrer, Geraldo; Van Leynseele, Tania.

van Pottelsberghe de la Potterie, Bruno

TI International R&D Spillovers: A Re-Examination. **AU** Lichtenberg, Frank; van Pottelsberghe de la Potterie, Bruno.

Van Wassenhove, Luk N.

TI Management Practices for Software Excellence: An Empirical Investigation. **AU** Dutta, Soumitra; Van Wassenhove, Luk N.

TI 1996 Software Best Practices Survey: Analysis of Results. **AU** Kulandaiswamy, Selvan; Dutta, Soumitra; Van Wassenhove, Luk N.

TI 1995 and 1996 Software Best Practices Surveys: A Comparative Analysis of Results. **AU** Pathare, Amit; Dutta, Soumitra; Van Wassenhove, Luk N.

van Wincoop, Eric

TI Do Nontraded Goods Explain the Home Bias Puzzle? **AU** Pesenti, Paolo; van Wincoop, Eric.

Vanhoose, David D.

TI Implications of Economic Interdependence and Exchange Rate Policy on Endogenous Wage Indexation Decisions. **AU** Bryson, Jay H.; Chen, Chih-Huan; Vanhoose, David D.

Vassalou, Maria

TI Portfolio Selection and Asset Pricing with Dynamically Incomplete Markets and Time-Varying First and Second Moments **AU** Nielsen, Lars Tyge; Vassalou, Maria.

Venables, Anthony J.

TI A Unified Treatment of Horizontal Direct Investment, Vertical Direct Investment, and the Pattern of Trade in Goods and Services. **AU** Markusen, James R.; Konan, Denise Eby; Venables, Anthony J.; Zhang, Kevin H.

Venkatraman, N.

TI Testing Measurement Equivalence in Cross-National Research: An Empirical Test Across U.S. and Japan. **AU** Bensaou, Ben M.; Coyne, Michael; Venkatraman, N.

Villagomez-Amezcua, Alejandr

TI Pension System Reform: The Mexican Case. **AU** Sales-Sarrapy, Carlos; Solis-Soberon, Fernando; Villagomez-Amezcua, Alejandro.

Vishny, Robert

TI The Proper Scope of Government: Theory and an Application to Prisons. **AU** Hart, Oliver; Shleifer, Andrei; Vishny, Robert.

Vohra, Rajiv

PD May 1997. **TI** Incomplete Information, Incentive Compatibility and the Core. **AA** Brown University. **SR** Brown University, Department of Economics Working Paper: 97/11; Department of Economics, Brown University, Providence, RI 02912. **PG** 27. **PR** no charge. **JE** C71, C72, D51. **KW** Incentive Compatibility. Incomplete Information. Private Information. Core.

AB We consider an exchange economy in which agents possess private information at the time of engaging in state contingent contracts. While communication of private information is permitted, the true information state is not verifiable. The enforcement of contracts is, therefore, limited by incentive compatibility constraints. We formalize a notion of the core for such an economy. Our analysis can be viewed as an attempt to incorporate incentive compatibility in Wilson's (1978) coarse core, or as an attempt to introduce coalitional contracts in the Holmstrom- Myerson (1983) notion of incentive efficiency. While there are some special cases in which the incentive compatible core is non-empty, we show that this is not generally true.

Voith, Richard

TI Does the US Tax Treatment of Housing Promote

Suburbanization and Central City Decline? AU Gyourko, Joseph; Voith, Richard.

Volij, Oscar

TI Abstract Equilibria, Interactive Choice Sets and Walrasian Allocations. AU Serrano, Roberto; Volij, Oscar.

TI Remarks on McLennan and Sonnenschein "Sequential Bargaining as a Non- Cooperative Foundation for Walrasian Equilibrium." AU Dagan, Nir; Serrano, Roberto; Volij, Oscar.

TI The Core of Economics with Asymmetric Information: An Axiomatic Approach. AU Lee, Darin; Volij, Oscar.

PD September 1997. TI Communication, Credible Improvements and the Core of an Economy with Asymmetric Information. AA Brown University. SR Brown University, Department of Economics Working Paper: 97/24; Department of Economics, Brown University, Providence, RI 02912. PG 20. PR no charge. JE C71, D82. KW Asymmetric Information. Core. Common Knowledge.
AB We analyze an economy with asymmetric information and endogenize the possibilities for information transmission between members of coalition. We then define a concept of the Core that takes into account these communication possibilities. The internal consistency of the improvements is considered and an Internally Consistent Core is introduced, that requires credibility from the improvements.

Vytlacil, Edward

TI Measuring the Effects of Cognitive Ability. AU Cawley, John; Conneely, Karen; Heckman, James J.; Vytlacil, Edward.

Wachter, Susan

TI Expected Home Ownership and Real Wealth Accumulation of Youth. AU Haurin, Donald; Hendershott, Patrick; Wachter, Susan.

TI Borrowing Constraints and the Tenure Choice of Young Households. AU Haurin, Donald; Hendershott, Patrick; Wachter, Susan.

Waldfogel, Jane

PD January 1998. TI Maternity Leave Policies and Women's Employment After Childbirth: Evidence from the United States, Britain and Japan. AU Waldfogel, Jane; Higuchi, Yoshio; Abe, Masahiro. AA Waldfogel: Columbia University and London School of Economics. Higuchi: Keio University. Abe: Centeral Research Institute of Electrical Power Industry. SR STICERD, London School of Economics Discussion Papers Series: CASE/3; STICERD, Room R.415, London School of Economics and Political Science, Houghton Street, London WC2A 2AE, UK. PG 24. PR no charge. JE I18, J18, J21, J33, J38. KW Maternity Leave. Female Labor. Employment. Great Britain. Japan.
AB This paper uses microdata from the United States, Britain and Japan to examine the effects of family leave coverage on women's employment after childbirth. The United States had no national family leave legislation until 1993, but many women were covered by employer policies. Britain has had maternity leave legislation since 1978, but until 1993 only about half of working women were covered. Japan has had maternity leave legislation since 1947 but not all workers are covered. We find that young children continue to have a very strong negative effect on women's employment, particularly in Britain. We also find that family leave coverage increases the likelihood that a woman will return to her employer after childbirth, with a particularly marked effect in Japan. This result suggests that the recent expansions in family leave coverage are likely to lead to increased employment of women after childbirth.

Wang, Kuo-Liang

PD September 1996. TI Exchange Rate Pass-Through and Industry Characteristics: The Case of Taiwan's Exports of Midstream Petrochemical Products. AU Wang, Kuo-Liang; Wu, Chung-Shu. AA Wang: National Cheng-Chi University. Wu: Academia Sinica. SR National Bureau of Economic Research Working Paper: 5749; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. Website: www.nber.org. PG 11. PR $5.00. JE L71, L95, F31. KW Taiwan. Foreign Exchange. Exchange Rates. Petrochemical Industry.
AB Based on 1986-1992 survey data of 22 midstream petrochemical industries in Taiwan, the empirical results of the export price, the markup ratio and the price-cost margin equations in this study show that Taiwan's petrochemical firms absorb only a small portion of a given weighted exchange rate change in their export prices, markup ratios and price-cost margins. It implies that Taiwan's petrochemical firms have a weak pricing-to-market pattern. The empirical results may be explained by the volatility of profitability, high market concentration and small export/domestic production share. However, the impacts of the exchange rate change on the export price, markup ratio and price-cost margin have a tendency to increase during the period of 1987 to 1992. The tendency might be attributed to increasing competition of the petrochemical markets in the world, or Taiwanese firms' gradual realization of the importance of holding their world market shares in response to exchange rate changes.

Wascher, William

TI Is the Time-Series Evidence on Minimum Wage Effects Contaminated by Publication Bias? AU Neumark, David; Wascher, William.

Wei, Shang-Jin

TI Convergence to the Law of One Price Without Trade Barriers or Currency Fluctuations. AU Parsley, David; Wei, Shang-Jin.

Weinstein, David E.

TI The Heckscher-Ohlin-Vanek Model of Trade: Why Does It Fail? When Does It Work? AU Davis, Donald R.; Bradford, Scott; Weinstein, David E.; Shimpo, Kazushige.

TI Does Economic Geography Matter for International Specialization? AU Davis, Donald R.; Weinstein, David E.

Weymark, John A.

TI Social Aggregation and the Expected Utility Hypothesis. AU Blackorby, Charles; Donaldson, David; Weymark, John A.

TI Linear Aggregation of SSB Utility Functionals. AU Turunen-Red, Arja H.; Weymark, John A.

TI A Quasiordering is the Intersection of Orderings. **AU** Donaldson, David; Weymark, John A.

Whalley, John

PD September 1996. **TI** Trade and Environment Beyond Singapore. **AA** University of Western Ontario and National Bureau of Economic Research. **SR** National Bureau of Economic Research Working Paper: 5768; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. Website: www.nber.org. **PG** 42. **PR** $5.00. **JE** F13, F41, F42. **KW** Environment. International Trade.
AB This paper discusses the likely evolution of the trade and environment issue in the World Trade Organization after the upcoming ministerial meeting in Singapore this December. It makes a number of points. Progress within GATT/WTO on this issue looks likely to be slow and painfully incremental rather than bold as environmental groups would wish to see. The paper also argues that despite (and beyond) Singapore, one has to go further than the GATT/WTO to see the potential evolution of the trade and environment issue. Developments seem likely to be driven in the next few years as much by factors outside the GATT/WTO as well as within it, as new global environmental arrangements, some with potentially large trade implications (such as carbon emission limitation agreements) emerge.

Whinston, Michael D.

TI Exclusive Dealing. **AU** Bernheim, B. Douglas; Whinston, Michael D.

White, Michelle

TI Personal Bankruptcy and Credit Supply and Demand. **AU** Gropp, Reint; Scholz, John Karl; White, Michelle.

Wilhelm, Mark

TI The Decline of Welfare Benefits in the U.S.: The Role of Wage Inequality. **AU** Mofitt, Robert; Ribar, David; Wilhelm, Mark.

Williams, John C.

TI Measuring the Social Return to R&D. **AU** Jones, Charles I.; Williams, John C.

Williamson, Peter

TI The Metanational Corporation. **AU** Doz, Yves; Asakawa, Kaz; Santos, Jose; Williamson, Peter.

Wilson, Beth Anne

PD December 1996. **TI** Movements of Wages Over the Business Cycle: An Intra-Firm View. **AA** Board of Governors of the Federal Reserve System. **SR** Board of Governors of the Federal Reserve System, Finance and Economics Discussion Paper Series: 1997/1; Ms. Karen Blackwell, FEDS Secretary, Mail Stop 77, Federal Reserve Board, Washington, DC 20551. Website: www.bog.frb.fed.us/pubs/feds. **PG** 38. **PR** no charge. **JE** E24, E32, J31, J41. **KW** Wage Cyclicality. Firm-Level Data. Business Cycles. Employment. Wages.
AB This paper tests the hypothesis that firms' adjust to the business cycle by altering employment through promotion and hiring and hold the salary structure and salaries assigned to jobs relatively constant. Two comprehensive firm-level panel data sets are used to examine salary setting and worker movement within firms. The salary structure is found to be rigid while promotion rates are cyclically sensitive. In contrast to the hypothesis, wage cyclicality in these two firms is driven by changes in salaries associated with jobs rather than by worker movement. An additional finding is that salaries in the two firms are countercyclical.

Wise, David

TI Insurance or Self-Insurance?: Variation, Persistence, and Individual Health Accounts. **AU** Eichner, Matthew; McClellan, Mark; Wise, David.

TI Individual Financial Decisions in Retirement Saving Plans and the Provision of Resources for Retirement. **AU** Poterba, James; Wise, David.

Woo, Wing Thye

TI Understanding China's Economic Performance. **AU** Sachs, Jeffrey D.; Woo, Wing Thye.

Woodford, Michael

TI Imperfect Competition and the Effects of Energy Price Increases on Economic Activity. **AU** Rotemberg, Julio; Woodford, Michael.

PD July 1996. **TI** Loan Commitments and Optimal Monetary Policy. **AA** Princeton University and National Bureau of Economic Research. **SR** National Bureau of Economic Research Working Paper: 5660; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. Website: www.nber.org. **PG** 30. **PR** $5.00. **JE** E41, E51, E52, E58. **KW** Money Supply. Tight Money. Monetary Policy. Money Demand. Loans.
AB With loan commitments negotiated in advance, the use of "tight money" to restrain nominal spending has asymmetric effects upon different categories of borrowers. This can reduce efficiency, even though aggregate demand is stabilized. This is illustrated in the context of an equilibrium model of financial intermediation with loan commitments, where monetary policy is characterized by a supply curve for reserves on the part of the central bank in an inter-bank market. If demand uncertainty relates primarily to the intensity of demand by each borrower with no difference in the degree of cyclicality of individual borrowers' demands, an inelastic supply of reserves by the central bank is optimal, because it stabilizes aggregate demand and as a result increases average capacity utilization. But if demand uncertainty relates primarily to the number of borrowers, an interest-rate smoothing policy is optimal, because it eliminates inefficient rationing of credit in high-demand states.

Woodford, Micheal

PD July 1996. **TI** Control of the Public Debt: A Requirement for Price Stability? **AA** Princeton University and National Bureau of Economic Research. **SR** National Bureau of Economic Research Working Paper: 5684; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. Website: www.nber.org. **PG** 33. **PR** $5.00. **JE** E31, E62, E63, F33, H63. **KW** Debt. Price Level. Monetary Policy. Fiscal Policy. European Union.
AB The paper considers the role of limits upon the permissible growth of public debt, like those stipulated in the Maastricht treaty, in making price stability possible. It is shown

that a certain type of fiscal instability, namely variations in the present value of current and future primary government budgets, necessarily results in price level instability, in the sense that there exists no possible monetary policy that results in an equilibrium with stable prices. If price adjustment is sluggish, the fiscal shocks disturb real output and real interest rates as well. Shocks of this kind can be eliminated by a Maastricht- type limit on the value of the public debt. In the presence of the debt limit, "Ricardian equivalence" holds, and fiscal shocks have no effects upon real or nominal variables. Furthermore, an appropriate monetary policy rule can ensure price stability even in the face of other kinds of real shocks.

Wu, Chung-Shu

TI Exchange Rate Pass-Through and Industry Characteristics: The Case of Taiwan's Exports of Midstream Petrochemical Products. **AU** Wang, Kuo-Liang; Wu, Chung-Shu.

Wu, Hsiu-Ling

PD October 1996. **TI** Testing for the Fundamental Determinants of the Long-Run Real Exchange Rate: The Case of Taiwan. **AA** Chung-Hua Institute for Economic Research. **SR** National Bureau of Economic Research Working Paper: 5787; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. Website: www.nber.org. **PG** 29. **PR** $5.00. **JE** F31, G15. **KW** Taiwan. Foreign Exchange. Impulse Response.

AB Three things have been suggested in this paper regarding the real exchange rate movements of the Taiwanese dollar with respect to the U.S. dollar. First, the real exchange rates between the Taiwanese and the U.S. dollar did not move as PPP predicts by cointegration test and impulse response function analysis. Also, through the analyses of impulse response functions, innovation in the nominal exchange rate, domestic and foreign prices results in permanent changes in the real exchange rate. Finally, in the long-run, differential productivity growth between the traded and non-traded goods and the changes in relative unit labor cost can lead to the changes in the real exchange rates.

Wyplosz, Charles

TI Contagious Currency Crisis. **AU** Eichengreen, Barry; Rose, Andrew K.; Wyplosz, Charles.

Yang, Tzu-Han

TI Testing Endogenous Growth in South Korea and Taiwan. **AU** Feenstra, Robert C.; Madani, Dorsati; Yang, Tzu-Han; Liang, Chi-Yuan.

Yosha, Oved

TI Federal Insurance of US States: An Empirical Investigation. **AU** Sorensen, Bent E.; Yosha, Oved.

TI Endogenous Probability of Failure for a Financial Intermediary: A Dynamic Model. **AU** Buchinsky, Moshe; Yosha, Oved.

Zaffaroni, Paola

TI Modelling Nonlinearity and Long Memory in Time Series. **AU** Robinson, Peter M.; Zaffaroni, Paola.

TI Nonlinear Time Series with Long Memory: A Model for Stochastic Volatility. **AU** Robinson, Peter M.; Zaffaroni, Paola.

Zaffaroni, Paolo

PD May 1997. **TI** Gaussian Estimation of Long Range Dependent Volatility in Asset Prices. **AA** London School of Economics. **SR** STICERD, London School of Economics Discussion Papers Series: EM/97/329; STICERD, Room R.415, London School of Economics and Political Science, Houghton Street, London WC2A 2AE, UK. **PG** 58. **PR** no charge. **JE** C22, C51, G12. **KW** Stochastic Volatility. Long Memory. Asymptotics. Asset Prices. Long Range Dependence.

AB Asset returns have a very complicated dynamic pattern. Yet they display regularity across different assets and periods. We consider a new family of volatility models which account for such patterns, focusing in particular on the long memory nature of asset returns volatility. We propose an estimation procedure for such models based on a Gaussian pseudo maximum likelihood estimator, for which we establish the relevant asymptotic theory. An empirical application based on forex and stock return indexes suggests the potential of these models to capture the dynamic features of the data.

TI Beta Convergence. **AU** Michelacci, Claudio; Zaffaroni, Paolo.

Zarazaga, Carlos E. J. M.

TI Economic Growth in Argentina in the Period 1900-30: Some Evidence From Stock Returns. **AU** Nakamura, Leonard I.; Zarazaga, Carlos E. J. M.

Zeckhauser, Richard

TI Price versus Quantity: Market Clearing Mechanisms When Sellers Differ In Quality. **AU** Metrick, Andrew; Zeckhauser, Richard.

Zemsky, Peter

TI Cooperation, Corporate Culture and Incentive Intensity. **AU** Rob, Rafael; Zemsky, Peter.

Zhang, Kevin H.

TI A Unified Treatment of Horizontal Direct Investment, Vertical Direct Investment, and the Pattern of Trade in Goods and Services. **AU** Markusen, James R.; Konan, Denise Eby; Venables, Anthony J.; Zhang, Kevin H.

Zhang, Zhaoyong

PD September 1996. **TI** The Exchange Value of the Renminbi and China's Balance of Trade: An Empirical Study. **AA** National University of Singapore. **SR** National Bureau of Economic Research Working Paper: 5771; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. Website: www.nber.org. **PG** 23. **PR** $5.00. **JE** E58, F31, F32. **KW** China. Trade Balance. Exchange Rates. Foreign Exchange. Granger Causality.

AB This paper aims at assessing the relationship between the exchange value of the Chinese Renminbi (RMG) and China's trade balance by means of some recent econometric techniques designed to evaluate the existence and the direction of causality. The authors find strong evidence suggesting that changes in the trade balance and each of its components Granger-cause changes in the exchange rate but no evidence indicating a causal link running from the exchange rate to the trade balance. Their results seem to be rather supportive of the accommodative role of the exchange rate proposed by the modern theory of the trade balance determination and not supportive of the existence of a J-curve in China's trade balance. Their finding of a bidirectional causal relationship between the real exchange rate and the price variables confirms the presence of a vicious circle hypothesis following currency devaluation.

Zhou, Chunsheng

TI Credit Derivatives in Banking: Useful Tools for Managing Risk? **AU** Duffee, Gregory R.; Zhou, Chunsheng.

PD March 1997. **TI** A Jump-Diffusion Approach to Modeling Credit Risk and Valuing Defaultable Securities. **AA** Board of Governors of the Federal Reserve System. **SR** Board of Governors of the Federal Reserve System, Finance and Economics Discussion Paper Series: 1997/15; Ms. Karen Blackwell, FEDS Secretary, Mail Stop 77, Federal Reserve Board, Washington, DC 20551. Website: www.bog.frb.fed.us/pubs/feds. **PG** 47. **PR** no charge. **JE** G12, G13, G30. **KW** Credit Risk. Jump Diffusion. Default. Firm Value. Securities.

AB The existing structural models of credit risk have relied almost exclusively on diffusion processes to model the evolution of firm value. While a diffusion approach is convenient, in empirical application, it has produced very disappointing results. This paper develops a new structural approach to valuing default-risky securities by modeling the evolution of firm value as a jump-diffusion process. Under a jump- diffusion process, a firm can default instantaneously because of a sudden drop in its value. With this characteristic, a jump-diffusion model can match the size of credit spreads on corporate bonds and can generate various shapes of yield-spread curves and marginal default rate curves. The model also links recovery rates to firm value at default in a natural way so that variation in recovery rates is endogenously generated in the model. The model is also consistent with many other stylized empirical facts in the credit-risk literature.

PD March 1997. **TI** Path-Dependent Option Valuation When the Underlying Path is Discontinuous. **AA** Board of Governors of the Federal Reserve System. **SR** Board of Governors of the Federal Reserve System, Finance and Economics Discussion Paper Series: 1997/16; Ms. Karen Blackwell, FEDS Secretary, Mail Stop 77, Federal Reserve Board, Washington, DC 20551. Website: www.bog.frb.fed.us/pubs/feds. **PG** 19. **PR** no charge. **JE** G12, G13. **KW** Path Dependence. Options. Jump Diffusion. Asset Prices.

AB The payoffs of path-dependent options depend not only on the final values, but also on the sample paths of the prices of the underlying assets. A rigorous modeling of the underlying asset price processes which can appropriately describe the sample paths is therefore critical for pricing path-dependent options. This paper allows for discontinuities in the sample paths of the underlying asset prices by assuming that these prices follow jump-diffusion processes. A general yet tractable approach is presented to value a variety of path-dependent options with discontinuous processes. The numerical examples show that ignoring the jump risk may lead to serious biases in path-dependent option pricing.

Zin, Stanley

TI Arbitrage Opportunities in Arbitrage-Free Models of Bond Pricing. **AU** Backus, David; Foresi, Silverio; Zin, Stanley.

Zingales, Luigi

TI Financial Dependence and Growth. **AU** Rajan, Raghuram; Zingales, Luigi.

Zucker, Lynne G.

TI Star Scientists, Institutions, and the Entry of Japanese Biotechnology Enterprises. **AU** Darby, Michael R.; Zucker, Lynne G.