ABSTRACTS OF WORKING PAPERS IN ECONOMICS

This section contains abstracts and complete bibliographic information for current working papers, listed alphabetically by primary author. Brief entries appear for secondary authors, cross-referenced to the primary author. For more recent as well as historical information, consult the AWPE DATABASE, available online through BRS. (Call 800-345-4277, or 518-783-1161 collect from overseas.)

Abel, Andrew B.

PD December 1986. **TI** Assessing Dynamic Efficiency: Theory and Evidence. **AU** Abel, Andrew B.; Mankiw, N. Gregory; Summers, Lawrence H.; Zeckhauser, Richard J. **AA** Abel: The Wharton School, University of Pennsylvania. Mankiw and Summers: Department of Economics, Harvard University. Zeckhauser: Kennedy School of Government, Harvard University. **SR** National Bureau of Economic Research Working Paper: 2097; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PR** $2.00. **JE** 023, 111, 313, 522, 122. **KW** Dynamic Efficiency. Capital Accumulation. Economic Growth. Cash Flows. Investment.

AB The issue of dynamic efficiency is central to analyses of capital accumulation and economic growth. Yet the question of what operating characteristics of an economy subject to productivity shocks should be examined to determine whether or not it is dynamically efficient has not been resolved. This paper develops a criterion based on observables for determining whether or not an economy is dynamically efficient. The criterion involves a comparison of the cash flows generated by capital with the volume of investment. Its application to the United States economy and the economies of other major OECD nations suggests that they are dynamically efficient.

PD January 1987. **TI** Optimal Monetary Growth. **AA** The Wharton School, The University of Pennsylvania. **SR** National Bureau of Economic Research Working Paper: 2136; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PR** $2.00. **JE** 311, 023, 321, 134. **KW** Money Growth. Superneutrality of Money. Inflation. Optimal Policy. Monetary Policy. Fiscal Policy.

AB In the absence of monetary superneutrality, inflation affects capital accumulation and the demand for real balances. This paper derives the combination of monetary and lump-sum fiscal policy which maximizes the sum of discounted utilities of representative consumers in present and future generations. Under the optimal policy package, the steady state has a zero nominal interest rate and has monetary contraction at the rate of intergenerational discount. As the rate of intergenerational discount rate approaches zero, optimal policy maximizes steady state utility of the representative consumer. In this case, the optimal steady state is characterized by a constant nominal money supply.

PD February 1987. **TI** Specification of the Joy of Giving: Insights from Altruism. **AU** Abel, Andrew B.; Warshawsky, Mark. **AA** Abel: The Wharton School, University of Pennsylvania. Warshawsky: Board of Governors of the Federal Reserve System. **SR** National Bureau of Economic Research Working Paper: 2154; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PR** $2.00. **JE** 011, 022, 911, 921. **KW** Altruism. Bequest. Contributions. Philanthropy.

AB This paper analyzes the joy of giving bequest motive in which the utility obtained from leaving a bequest depends only on the size of the bequest. It exploits the fact that this formulation can be interpreted as a reduced form of an altruistic bequest motive to derive a relation between the value of the altruism parameter and the value of the joy of giving parameter. Using previous discussions of an a priori range of plausible values for the altruism parameter we then derive plausible restrictions on the joy of giving parameter. We demonstrate that this parameter may well be orders of magnitude larger than assumed in the existing literature.

Abowd, John M.

PD January 1987. **TI** Collective Bargaining and the Division of the Value of the Enterprise. **AA** Princeton University. **SR** Princeton Industrial Relations Section Working Paper: 218; Industrial Relations Section, Princeton University, Princeton, NJ 08544. **PG** 57. **PR** No Charge. **JE** 832, 831, 512. **KW** Collective Bargaining. Value of the Firm. Contract Settlements. Unions. Negotiations. Labor.

AB The enterprise (firm) is modeled as a collection of formal and informal contracts providing various factors of production with claims on the income stream in consideration of assets or services supplied to the enterprise. The strongly efficient bargaining model implies that the division of the quasi-rents will result in dollar for dollar exchanges of wealth between the union members and the shareholders. The leading inefficient bargaining models do not imply such tradeoffs in general. The model is tested by considering contract settlements during the years 1976 to 1982 as recorded by the Bureau of National Affairs in Collective Bargaining Negotiations and Contracts. Security price data for the firms were merged with these bargaining unit level settlement data. The tests provide substantial confirmation of the dollar for dollar wealth tradeoff between union members and shareholders.

PD January 1987. **TI** Collective Bargaining and the Division of the Value of the Enterprise. **AA** Industrial Relations Section, Princeton University. **SR** National Bureau of Economic Research Working Paper: 2137;

National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PR** $2.00. **JE** 832, 831, 512, 824. **KW** Collective Bargaining. Union. Labor Contract. Negotiation.

AB The enterprise (firm) is modeled as a collection of formal and informal contracts providing various factors of production with claims on the income stream in consideration of assets or services supplied to the enterprise. The strongly efficient bargaining model implies that the division of the quasi-rents will result in dollar for dollar exchanges of wealth between the union members and the shareholders. The leading inefficient bargaining models do not imply such tradeoffs in general. The model is tested by considering contract settlements during the years 1976 to 1982 as recorded by the Bureau of National Affairs in Collective Bargaining Negotiations and Contracts. Security price data for the firms were merged with these bargaining unit level settlement data. The tests provide substantial confirmation of the dollar for dollar wealth tradeoff between union members and shareholders.

Abreu, Dilip

PD May 1986. **TI** Toward a Theory of Discounted Repeated Games with Imperfect Monitoring. **AU** Abreu, Dilip; Pearce, David; Stacchetti, Ennio. **AA** Abreu: Harvard University. Pearce: Yale University. Stacchetti: Stanford University. **SR** Stanford Institute for Mathematical Studies in the Social Sciences (Economics Series) Technical Report: 487; Institute for Mathematical Studies in the Social Sciences, Encina Hall, Fourth Floor, Stanford University, Stanford, CA 94305. **PG** 36. **PR** $4.00. **JE** 026, 022, 611. **KW** Repeated Games. Optimal Collusion. Trigger Strategies. Imperfect Monitoring.

AB This paper investigates pure strategy sequential equilibria of repeated games with imperfect monitoring. The approach emphasizes the equilibrium value set and the static optimization problems embedded in extremal equilibria. We characterize these equilibria, and provide computational and comparative statics results. The "self-generation" and "bang-bang" propositions which were at the core of our analysis of optimal cartel equilibria (Abreu, D., D. Pearce and E. Stacchetti, '1986), are generalized to asymmetric games and infinite action spaces. New results on optimal implicit reward functions include the necessity (as opposed to sufficiency) of bang-bang functions, and the nature of optimal punishment regions.

Adler, Moshe

PD January 15, 1987. **TI** Economies of Scale in Imitative Consumption and the Size of the Firm: Theory and an Application to Chain Restaurants. **AA** University of California at Davis. **SR** University of California at Davis Economics Department Working Paper: 287; Department of Economics, University of California at Davis, Davis, CA 95616. **PG** 44. **PR** No Charge. **JE** 611, 635, 921. **KW** Imitative Consumption. Economies of Scale. Restaurants. Firm Size. Chain Stores.

AB The economies of scale that economists normally rely on to explain the size of firms involve only firms; examples are economies of scale in production, in management and in advertising. This paper argues that there are also entirely different types of economies of scale that determine the size of firms, types that do not involve firms at all. These are "economies of scale in imitative consumption," and as their name suggests, they involve only consumers. A particular good is subject to these economies if consumers are better off consuming brands of the good that almost all other consumers also consume. For example, there are economies of scale in imitative consumption in the consumption of soft drinks if, among the different local and national brands available, the consumer is better off picking, say, Coke, only because almost everybody else does too. The larger the economies of scale in imitative consumption, the larger will be the size of firms in the industry producing this good. What goods are subject to economies of scale in imitative consumption? Food, clothing and cars are some examples. Some industries whose firms' sizes are determined, at least in part, by these economies are the jeans, sneakers, breakfast cereal, and soft-drinks industries. Of course, economies of scale in imitative consumption are not the only factor that determine firms' sizes in these industries; our analysis implies, however, that because of economies of scale in imitative consumption there would be large firms in all these cases even if the economies of scale in provision (i.e., economies of scale that involve only firms) were all exhausted at small firm sizes. The effect of economies of scale in imitative consumption is, therefore, quite prevalent. How important is this effect relative to other factors in explaining the structures of industries? No general answer can be given since the answer could vary from industry to industry, but to demonstrate the possible significance of economies of scale in imitative consumption we will analyze here in detail one case - the restaurant industry. In the first part of the paper we discuss two alternative explanations to ours for the structure of the restaurant industry. The first explanation attributes the structure of the industry to economies of scale in provision (economies that involve only firms); the second attributes it to reputation enforcement via chain-stores (and hence is similar to our explanation in so far as it does not view the restaurant industry as subject to significant economies of scale in provision). The second is the more serious contender because the chain-store literature was specifically designed to deal with structures such as that of the restaurant industry. We show that each of these two contending explanations has implications which contradict various empirical facts concerning restaurants. These facts are consistent with an explanation based on economies of scale in imitative consumption. The second part of the paper analyses the characteristics of consumers that lead to the existence of economies of scale in imitative consumption. It is shown that if (i) consumers' tastes are learned and (ii) consumers are mobile, economies of scale in imitative consumption will exist. The third part analyzes the effect of economies of scale in imitative consumption on the structure of the restaurant industry. It is shown that in equilibrium there will be many restaurants that are unique, and some restaurants that are identical replications of each other and have outlets in all locations (chains). It is also shown that the units that are identical will necessarily form one large firm only if trademarks are protected; otherwise each outlet of a chain could form an independent firm.

Albach, Horst

PD June 1986. **TI** Business Organization Theory with an Application to Organizing a Research Institute. **AA** University of Bonn. **SR** Universitat Bonn Sonderforschungsbereich 303 - Discussion Paper: D-6; Sonderforschungsbereich 303 an der Universitat Bonn, Adenauerallee 24-42, D-5300 Bonn 1, DEUTSCHLAND. **PG** 16. **PR** No Charge. **JE** 511, 512, 514. **KW** Organisation Theory. Decision Process. Loyalty. Rational Behavior. Organization Structure.

AB It was said that the problem of organising the decision process in the Federal Institute for Research on Vocational Training has aspects of the prisoner's dilemma. As Krelle has shown, solutions to the prisoner's dilemma are personality-determined. I have sketched a solution to the reorganisation of the Federal Institute that sets up a new formal organisation: an Executive Committee henceforth expells all the informal processes of research and control and adheres to the principle of line of authority. Decision on structuring large research projects is delegated to this Committee, and the General Committee decides on the research program on the basis of largely defined research topics. The loyalty filter concept seems to introduce personality elements into the rational organizational structure. If the Executive Committee does not act as a loyalty filter, then clearly the reorganisation will not work. However the General Committee can influence the probability of the loyalty filter by making the appropriate personnel decisions. Therefore, acting loyal to the General Committee as a whole is rational behavior on the side of the members of the Executive Committee. The case of the Federal Institute for Research in Vocational Training poses as we have seen an interesting principal-agent problem: Four principals delegate their decisions to a loyal agent in order to avoid potential open conflicts of interests. The solution presented is rational (I hope). Time will show whether the Federal Government and the House are equally rational and enact it.

Albright, David J.

TI Central Policies for Local Debt: The Case of Teacher Pensions. **AU** Inman, Robert P.; Albright, David J.

Alesina, Alberto

PD February 1987. **TI** A Positive Theory of Fiscal Deficits and Government Debt in a Democracy. **AU** Alesina, Alberto; Tabellini, Guido. **AA** Alesina: Carnegie Mellon University. Tabellini: University of California, Los Angeles. **SR** University of California at Los Angeles Department of Economics Working Paper: 435; Department of Economics - University of California at Los Angeles Los Angeles, CA 90024. **PR** $2.50. **JE** 321, 322, 323, 131. **KW** Public Debt. Democracy. Time Consistency. Tax Distortions. Budget Deficit. Fiscal Policy. Elections. Deficits Bias. Public Goods.

AB This paper considers an economy in which policymakers with different preferences concerning fiscal policy alternate in office as a result of democratic elections. It is shown that in this situation government debt becomes a strategic variable used by each policymaker to influence the choices of her successors. In particular, if different policymakers disagree about the desired composition of government spending between two public goods, the economy exhibits a deficits bias. Namely, in this economy debt accumulation is higher than it would be with a social planner. According to the results of our model, the equilibrium level of government debt is larger: the larger is the degree of polarization between alternating governments; and the more likely it is that the current government will not be reelected. The paper has empirical implications which contribute to explain the current fiscal policies in the United States and in several other countries.

Allen, Robert C.

PD October 1986. **TI** On the Road Again With Arthur Young: English, Irish, and French Agriculture During the Industrial Revolution. **AU** Allen, Robert C.; OGrada, Cormac. **AA** Department of Economics, University of British Columbia. **SR** University of British Columbia Department of Economics Discussion Paper: 86-38; Department of Economics, University of British Columbia 997 - 1873 East Mall, Vancouver, B.C. CANADA V6T 1Y2. **PG** 30. **PR** $0.20 per page Canadian to other than educational institutions. **JE** 044, 710. **KW** Economic History. Agricultural Economics. Industrial Revolution. England. Ireland. France.

AB In the summer of 1767, "some private business carrying (him) to the South of Wales," Arthur Young embarked on what came to be known as his Six Weeks Tour through the Southern Counties of England and Wales (1768) (Young 1771a, Vol. I, p. iii). By way of amusement -- so he tells us -- Young noted down particulars of farming practice along the way. This was the beginning of what became a grand design to survey the agriculture of the three Kingdoms. A Six Months Tour through the North of England (1771a) and The Farmer's Tour through the East of England (1771b) -- each four volumes -- quickly followed and rapidly went through several editions. In 1776, 1777, and 1778, Young took three trips to Ireland and in 1780 published the Tour in Ireland. More short tours of British districts followed in the 1780's (Young 1786, 1787, 1789), but Young's interests turned to Europe. He traveled to France three times between 1787 and 1789 with excursions into Catalonia and Italy. The result was the enormously influential Travels..of France (1794). Young's tours are unique in travel literature because his objective was original. In the late eighteenth century, it was widely believed that national prosperity depended on a productive agriculture. Yet important as agrarian issues were universally believed to be, they were discussed in a factual vacuum. Even the most basic matters like the size of the agricultural sector were unknown in this pre-statistical age. Young aimed to remedy this deficiency by collecting the details of farming in different districts and using those findings to address major questions of agrarian policy.

PD December 1986. **TI** Enclosure, Farming Methods, and the Growth of Productivity in the South Midlands. **AA** Department of Economics, University of British Columbia. **SR** University of British Columbia Department of Economics Discussion Paper: 86-44; Department of Economics, University of British Columbia 997 - 1873 East Mall, Vancouver, B.C. CANADA V6T 1Y2. **PG** 21. **PR** $0.20 per page Canadian to other than educational institutions. **JE** 044, 717, 718.

KW Enclosure. Farming Technology. England. Agrarian Structure. English Agriculture.

AB Measurement and theory are both required to understand the relationship between enclosure and improvements in farming. This paper begins with measurement and proceeds to theory. First, I show that between 1750 and 1850 enclosure did cause technical change in agriculture. Second, in contrast, I show that open field farming achieved considerable productivity growth in the seventeenth century, so it was not persistently stagnant. Finally, in order to account for these divergent findings, the paper analyzes theoretically the circumstances under which open field farming was innovative and those under which it was not. The results reported in this paper are part of a larger study of the agricultural development of the south midlands between 1450 and 1850. Section II presents the results of the first test of enclosure on farming methods. This test consists of comparing the practices of open and enclosed farmers in each district in the period 1750-1850. The comparisons show that enclosed farmers were much more likely than open farmers to have adopted the new techniques. Section III presents the results of a second test. This test involves measuring the growth of the productivity of open field farmers in each district from 1450 to 1850. These measurements show that those farmers could generate considerable productivity growth. Section IV is concerned with explaining the mixed productivity record of the open fields.

Allen, Steven G.

PD December 1986. **TI** Unions and Job Security in the Public Sector. **AA** Department of Economics and Business, North Carolina State University. **SR** National Bureau of Economic Research Working Paper: 2108; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PG** 48. **PR** $2.00. **JE** 824, 831, 833, 822. **KW** Unions. Job Security. Public Sector. Unemployment. Unemployment Insurance.

AB This study examines the effect of unions on job security in the public and private sectors. Despite much lower unemployment rates for public than private sector workers, once one controls for differences in worker and job characteristics, the odds of being unemployed are identical for nonunion workers in the public and private sectors. The picture is quite different for union workers, who face greater odds of becoming unemployed than nonunion workers in private sector jobs but much lower chances of becoming unemployed in the public sector. The ability of unions to reduce layoff and unemployment rates in the public sector seems attributable to the political power to prevent budget cuts and the absence of Unemployment Insurance subsidies or supplemental unemployment benefits.

Altonji, Joseph G.

PD January 1987. **TI** Labor Supply Preferences, Hours Constraints, and Hours-Wage Tradeoffs. **AU** Altonji, Joseph G.; Paxson, Christina H. **AA** Altonji: Department of Economics, Northwestern University. Paxson: Woodrow Wilson, Princeton University. **SR** Princeton Industrial Relations Section Working Paper: 214; Department of Economics, Princeton University, Princeton, N.J. 08544. **PG** 31. **PR** No Charge. **JE** 824, 821. **KW** Labor Supply. Wages. Working Hours.

AB In a labor market in which firms offer tied hours-wage packages and there is substantial dispersion in the wage offers associated with a particular type of job, the best jobs available to a worker at a point in time may pay well but require an hours level which is far from the worker's labor supply schedule, or pay poorly but offer desirable hours. Intuitively, one would expect hours constraints to influence the pattern of wage-hours tradeoffs which occur when workers quit to new jobs. Constrained workers may be willing to sacrifice wage gains for better hours. Likewise, workers may accept jobs offering undesirable hours only if the associated wage gains are large. We investigate this issue empirically by examining whether overemployment (underemployment) on the initial job increases (reduces) the partial effect on the wage gain of a positive change in hours for those who quit. We also examine whether overemployment (underemployment) on the new job increases (reduces) the partial effect on the wage gain of a positive change in hours for those who quit. Despite the limitations imposed by small sample sizes and lack of information on the magnitude of hours constraints, our results support the view that an individual requires compensation to work in jobs which, given the individual's particular preferences, offer unattractive hours.

PD January 1987. **TI** Labor Supply Preferences, Hours Constraints, and Hours-Wage Tradeoffs. **AU** Altonji, Joseph G.; Paxson, Christina H. **AA** Altonji: Department of Economics, Northwestern University. Paxson: Woodrow Wilson School, Princeton University. **SR** National Bureau of Economic Research Working Paper: 2121; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PR** $2.00. **JE** 821, 824. **KW** Labor Supply. Hours Constraints. Wages. Shift Work.

AB In a labor market in which firms offer tied hours-wage packages and there is substantial dispersion in the wage offers associated with a particular type of job, the best job available to a worker at a point in time may pay well but require an hours level which is far from the worker's labor supply schedule, or pay poorly but offer desirable hours. Intuitively, one would expect hours constraints to influence the pattern of wage-hours tradeoffs which occur when workers quit to new jobs. Constrained workers may be willing to sacrifice wage gains for better hours. Likewise, workers may accept jobs offering undesirable hours only if the associated wage gains are large. We investigate this issue empirically by examining whether overemployment (underemployment) on the initial job increases (reduces) the partial effect on the wage gain of a positive change in hours for those who quit. We also examine whether overemployment (underemployment) on the new job increases (reduces) the partial effect on the wage gain of a positive change in hours for those who quit. Despite the limitations imposed by small sample sizes and lack of information on the magnitude of hours constraints, our results support the view that an individual requires compensation to work in jobs which, given the individual's particular preferences, offer unattractive hours.

PD February 1987. **TI** Dynamic Factor Models of

Consumption, Hours and Income. **AU** Altonji, Joseph G.; Martins, Ana Paula; Siow, Aloysius. **AA** Altonji: Department of Economics, Northwestern University. Martins and Siow: Department of Economics, Columbia University. **SR** National Bureau of Economic Research Working Paper: 2155; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PR** $2.00. **JE** 921, 821, 023, 824. **KW** Consumer. Life-Cycle. Budget Constraint. Permanent Income Hypothesis. Wages. Unemployment. Consumption. Labor Supply.

AB This paper addresses two questions. First, what are the key factors that affect a consumer's lifetime budget constraint and how do they evolve over the lifecycle? Second, how do consumers respond to changes in these factors? We examine the permanent income hypothesis and the Keynesian consumption model using a dynamic factor model of consumption, hours, wages, unemployment, and income. We show that a quarterly dynamic factor model with restrictions on the lag structure may be used with annual panel data to account for the fact that in many micro panel data sets the variables relevant to a study are measured at different time intervals and/or are aggregates for the calendar year. By using several income indicators we are able to extend the panel data studies of Hall and Mishkin and Bernanke to allow for measurement error. We are also able to study the response of income and consumption to some of the factors which determine them. In addition, we study a dynamic factor representation of a joint lifecycle model of consumption and labor supply. We provide estimates of the effect of wages, unemployment, and other income determinants on the marginal utility of income as well as estimates of the substitution effects of wage change on labor supply and consumption.

Amir, R.

PD December 4, 1986. **TI** A Strategic Market Game With Complete Markets. **AU** Amir, R.; Sahi, S.; Shubik, M. **AA** Cowles Foundation, Yale University. **SR** Yale Cowles Foundation Discussion Paper: 814; Cowles Foundation for Research in Economics, 30 Hilhouse Avenue, Box 2125 Yale Station, New Haven, CT 06520. **PG** 24. **PR** No Charge. **JE** 021, 022, 026, 611. **KW** Exchange. Market Game. Complete Markets.

AB An economic process approach to the study of exchange is by means of a strategic market game (see Shubik 1973; Shapley and Shubik, 1977; Dubey and Shubik, 1978). Price is formed by the simultaneous actions of all agents. One of the simplest models distinguishes one of m commodities as a money. Then m-1 markets are considered in which the money can be exchanged directly for one of the other commodities. The direct exchange of other commodities for each other is ruled out. In contrast when all commodities can be exchanged directly then for m commodities there are m(m-1)/2 markets instead of m-1.

Anderson, Robert M.

PD September 16, 1986. **TI** The Second Welfare Theorem with Convex Preferences. **AA** University of California at Berkeley. **SR** University of California at Berkeley Department of Economics Working Paper: 8608; Department of Economics, University of California at Berkeley, Berkeley, CA 94720. **PG** 24. **PR** $3.50. **JE** 024, 213. **KW** Welfare Theory. Nonconvexities. Walrasian Equilibrium. Nonstandard Analysis. Shapley-Folkman Theorem.

AB We prove several versions of the second theorem of welfare economics for exchange economies with nonconvex preferences.

Aoki, Masanao

PD March 1987. **TI** How to Build State Space Models for Nonstationary Time Series and How to Measure Random Walk Components. **AA** Department of Economics, University of California, Los Angeles. **SR** University of California at Los Angeles Department of Economics Working Paper: 438; Department of Economics, University of California at Los Angeles, 405 Hilgard Avenue, Los Angeles, CA 90024. **PG** 11. **PR** $2.50 (checks payable to University of California Regents). **JE** 131, 132, 211. **KW** Unit Root. Trend. Nonstationary. State Space Model. Random Walk. Dynamic Walk. Dynamic Factor Model.

AB A two-step procedure of building state space models for vector-valued time series with trends is described. Then a new measure of random walk components in time series having unit root components is proposed to correct some undesirable features of those used in the literature. The quarterly United States real GNP from 1947.1 to 1986.2 is found to contain less than 10 per cent of random walk component.

PD March 1987. **TI** Evidences of Unit Roots and Co-Integration in the Time Series for U.S. GNP, M1 and CPI. **AA** Department of Economics, University of California, Los Angeles. **SR** University of California at Los Angeles Department of Economics Working Paper: 439; Department of Economics, University of California at Los Angeles, 405 Hilgard Avenue, Los Angeles, CA 90024. **PG** 23. **PR** $2.50 (checks payable to University of California Regents). **JE** 131, 132, 211. **KW** Unit Root. Cointegration. Dynamic Factor Model. State Space Model. Random Walk. Trend Dynamics. Short Run Dynamics. Common Factor.

AB Dynamic factor (state space) models are constructed for the United States M1 and CPI monthly time series with a common dynamic factor that explains significant movements in those two series. Discovery of such a common factor is equivalent to the notion of co-integration advanced by Granger. To this end, a recently developed method of Aoki is used to (i) first construct a low order dynamics for trend components and (ii) then the residuals are treated as weakly stationary to which another model is fitted. This procedure results in a recursive dynamic model in which short-run dynamics affects but is not affected by the longer-run trend dynamics. This decomposition differs from the random detrending advanced by Kitagawn or Harvey because the latters produce block-diagonal dynamic matrices rather than block-triangular, i.e., the trend dynamics and shorter-run cyclical dynamics are not allowed to interact. When the procedure is applied to the bivariate monthly series of the United States M1 and CPI from January 1975 on, consisting of 117 data points, one dynamic factor is discovered common to both series, so that 1.13 CPI - M1 is

co-integrated. The United States Gross National Product quarterly series exhibit the strongest evidence for the unit roots among the three series examined. Here the issue is how to define the random walk components. The paper proposes a measure different from that used by Nelson and Plosser and Cochrane. The real GNP series from 1974 seems to contain less than 6 per cent of the random walk components.

Arrow, Kenneth J.

PD November 1986. **TI** The Demand for Information and the Distribution of Income. **AA** Stanford University. **SR** Stanford Institute for Mathematical Studies in the Social Sciences (Economic Series) Technical Report: 494; Institute for Mathematical Studies in the Social Sciences, Encina Hall, Fourth Floor, Stanford University, Stanford, CA 94305. **PG** 21. **PR** $4.00. **JE** 026, 022. **KW** Information. Income Distribution. Risk-Bearing. Portfolio Selection.

AB Investors can increase their payoff by acquiring information on rates of return. The value of the information is greater, the greater the amount to be invested. Therefore, information purchased and consequently the expected rate of return increases with initial wealth, and the distribution of final wealth is more unequal than that of initial wealth.

Ashenfelter, Orley

PD January 1987. **TI** The 'Economics of Discrimination' Thirty Years Later: Economists Enter the Courtroom. **AU** Ashenfelter, Orley; Oaxaca, Ronald. **AA** Ashenfelter: Princeton University. Oaxaca: University of Arizona. **SR** Princeton Industrial Relations Section Working Paper: 216; Industrial Relations Section, Princeton University, Princeton, NJ 08544. **PG** 13. **PR** No Charge. **JE** 917, 916. **KW** Discrimination. Race. Sex. Litigation. Civil Disputes.

AB Although The Economics of Discrimination has left a large scholarly legacy, we believe the empirical methods associated with the study of race and sex discrimination have had a still larger impact on practical matters. Our purpose in this paper is to give some small insight into how this scholarly literature has ended up as a major factor in the litigation of many civil disputes where race and sex discrimination are alleged.

PD February 1987. **TI** Arbitrator Behavior. **AA** Princeton University. **SR** Princeton Industrial Relations Section Working Paper: 219; Industrial Relations Section, Princeton University, Princeton NJ 08544. **PG** 15. **PR** No Charge. **JE** 832, 833, 831, 026. **KW** Arbitrator. Arbitration. Labor Dispute.

AB Arbitration systems are often used to resolve labor disputes because on-going employment relationships are likely to contain specific (human capital) investments. Recent research indicates that the ex ante acceptability of arbitration to the parties must depend, in part, on the unpredictability of the arbitrator's award. It is shown that the usual selection process for arbitrators does imply that arbitrator decisions should be statistically exchangeable (in the limit), and the evidence available to date supports this hypothesis.

Auerbach, Alan J.

TI January 1987. Why Have Corporate Tax Revenues Declined? **AU** Auerbach, Alan J.; Poterba, James M. **AA** Auerbach: National Bureau of Economic Research, Cambridge. Poterba: Department of Economics, Massachusetts Institute of Technology. **SR** National Bureau of Economic Research Working Paper: 2118; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PR** $2.00. **JE** 323, 521, 522. **KW** Corporate Taxes. Corporate Profits. Capital Recovery Provisions. Tax Reform Act.

AB This paper examines the source of changes in corporate tax revenues during the last twenty-five years. It finds that legislative changes explain less than half of the revenue decline during this period. Falling corporate profits have had a larger influence on revenue collections than all legislative changes taken together, a result that is often obscured in studies focusing solely on the average corporate tax rate. Changes in capital recovery provisions are the most important legislative factor influencing corporate tax revenues, especially in the last five years. The paper also considers the impact of the Tax Reform Act of 1986. The new law will increase the average tax rate on corporate profits by approximately 10 percent. By 1990, the average tax rate will equal its level in the late 1970s, although it will remain substantially below its level in the 1960s and the early 1970s.

PD October 1986. **TI** Why Have Corporate Tax Revenues Declined? **AU** Auerbach, Alan J.; Poterba, James M. **AA** Auerbach: University of Pennsylvania, Harvard and NBER. Poterba: Massachusetts Institute of Technology and NBER. **SR** Massachusetts Institute of Technology Department of Economics Working Paper: 435; Department of Economics, Massachusetts Institute of Technology Cambridge, MA 02139. **PG** 36. **PR** No Charge. **JE** 323, 541. **KW** Corporate Taxes. Corporate Profits. Corporate Tax Rate. Tax Reform Act of 1986.

AB This paper examines the source of changes in corporate tax revenues during the last twenty-five years. It finds that legislative changes explain less than half of the revenue decline during this period. Falling corporate profits have had a larger influence on revenue collections than all legislative changes taken together, a result that is often obscured in studies focusing solely on the average corporate tax rate. Changes in capital recovery provisions are the most important legislative factor influencing corporate tax revenues, especially in the last five years. The paper also considers the impact of the Tax Reform Act of 1986. The new law will increase the average tax rate on corporate profits by approximately 10 percent. By 1990, the average tax rate will equal its level in the late 1970s, although it will remain substantially below its level in the 1960s and the early 1970s.

PD December 1986. **TI** Tax Reform and Adjustment Costs: The Impact on Investment and Market Value. **AA** National Bureau of Economic Research, Cambridge. **SR** National Bureau of Economic Research Working Paper: 2103; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PR** $2.00. **JE** 323, 522, 313. **KW** Tax Reform. Adjustment Costs. Investment. Returns to Capital.

AB This paper derives analytical measures of the combined effects of tax changes and adjustment costs on investment and market value. Unlike earlier measures, the effective tax rate derived is valid in the presence of adjustment costs and anticipated tax changes. The derived measure of the impact of tax changes on market value permits one to estimate the effects of various tax changes on market value and its components, discounted pure profits and normal returns to capital, and to decompose changes in the value of capital into changes in the marginal value of new capital and changes in the relative value of new and existing capital. These measures are used to evaluate tax changes similar to those introduced by the recent United States tax reform.

PD March 1987. **TI** The Effects of Taxation on the Merger Decision. **AU** Auerbach, Alan; Reishus, David. **AA** Auerbach: National Bureau of Economic Research Cambridge. Reishus: Department of Economics, Harvard University. **SR** National Bureau of Economic Research Working Paper: 2192; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PR** $2.00. **KW** Mergers. Tax Benefits. Acquisitions. Tax Reform Act of 1986. Tax Policy. Takeovers.

AB This paper presents estimates of the tax benefits generated by a sample of United States mergers and acquisitions involving two public corporations over the period 1968-83 and estimates a "marriage model" based on differences between these mergers and another sample of "pseudomergers" that did not occur to determine the impact of these tax benefits on the probability of two firms combining. Our findings reject the hypothesis that leverage played a large role in fostering these transactions, and that the tax losses and credits of acquired firms likewise exerted no impact on merger activity. Though the use of such benefits by acquiring firms to shield profits of other firms did increase the level of activity, the impact was quite small. On the whole, our results suggest that the changes in tax provisions with respect to mergers introduced by the Tax Reform Act of 1986 will have a small impact on United States mergers and acquisitions.

Austen, Smith David

PD February 1987. **TI** Sophisticated Sincerity: Voting Over Endogenous Agendas. **AA** University of Rochester and California Institute of Technology. **SR** Caltech Social Science Working Paper: 630; Division of Humanities and Social Sciences, 228-77, California Institute of Technology, Pasadena, CA 91125. **PG** 13. **PR** No Charge. **JE** 025. **KW** Endogenous Agendas. Voting. Strategic Voting. Decision Making. Legislation.

AB The empirical findings on whether or not legislators vote strategically are mixed. This is at least partly due to the fact that to establish any hypothesis on strategic voting, legislators' preferences need to be known; and these are typically private data. In this note it is shown that, under complete information, if decision-making is by the amendment procedure and if the agenda is set endogenously, then sophisticated (strategic) voting over the resulting agenda is observationally equivalent to sincere voting. The voting strategies, however, are sophisticated. This fact has direct implications for empirical work on sophisticated voting.

Ausubel, Lawrence M.

PD December 1986. **TI** Reputation in Bargaining and Durable Goods Monopoly. **AU** Ausubel, Lawrence M.; Deneckere, Raymond J. **AA** Ausubel: Northwestern University. Deneckere: Northwestern University. **SR** Stanford Institute for Mathematical Studies in the Social Sciences (Economic Series) Technical Report: 491; Institute for Mathematical Studies in the Social Sciences, Encina Hall, Fourth Floor, Stanford University, Stanford, CA 94305. **PG** 62. **PR** $4.00. **JE** 022, 026, 611. **KW** Durable Goods Monopoly. Bargaining. Coase Conjecture. Reputation. Game. Folk Theorem. Sequential Equilibria. Perfect Equilibria.

AB This paper analyzes durable goods monopoly in an infinite-horizon, discrete-time game. We prove that, as the time interval between successive offers approaches zero, all seller payoffs between zero and static monopoly profits are supported by subgame perfect equilibria. This reverses a well-known conjecture of Coase. Alternatively, one can interpret the model as a bargaining game with one-sided incomplete information in which the uninformed party makes all the offers. Under that interpretation, our "Folk Theorem" applies to the set of sequential equilibria.

Bacchetta, Philippe

TI How Far Has the Dollar Fallen? **AU** Feldstein, Martin; Bacchetta, Philippe.

Bachem, Achim

PD October 1985. **TI** On Sticky Matroids. **AU** Bachem, Achim; Kern, Walter. **AA** Koln. **SR** Universitat Bonn Sonderforschungsbereich 303 - Discussion Paper: 85-18; Sonderforschungsbereich 303 an der Universitat Bonn, Adenaueralle 24-42, D-5300 Bonn 1, DEUTSCHLAND. **PG** 9. **PR** No Charge. **JE** 213. **KW** Matroid. Sticky Conjecture. Geometric Lattice.

AB The "sticky conjecture" states that a geometric lattice is modular if and only if any two of its extensions can be "glued together". It is known to be true as far as rank 3 geometries are concerned. In this paper we show that it is sufficient to consider a very restricted class of rank 4 geometries in order to settle the question. As a corollary we get a characterization of uniform sticky matroids, which has been found by Poljack and Turzik in 1984.

Balcer, Yves

PD February 1987. **TI** Effects of Capital Gains Taxation on Life-cycle Investment and Portfolio Management. **AU** Balcer, Yves; Judd, Kenneth L. **AA** Balcer: University of Wisconsin. Judd: Northwestern University, National Fellow, Hoover Institution. **SR** Stanford Hoover Institute Working Paper in Economics: E-87-6; Domestic Studies Program Working Paper Series, Hoover Institution, Stanford University, Stanford, CA 94305. **PG** 40. **PR** No Charge. **JE** 323, 921, 521. **KW** Capital Gains Taxation. Capital Structure. Life-Cycle Savings. Portfolio Management.

AB This paper examines the impact of capital gains taxation on life-cycle portfolio management and aggregate savings. We demonstrate an intrapersonal clientele effect whereby individuals specialize in debt or equity purchases

at different phases of life. We show that standard methods of incorporating capital gains taxation in effective tax rate indices are poor approximations. Also, we show that changes in accrual and realization taxes will generate substantially different impacts on aggregate savings.

Ball, Laurence

PD February 1987. **TI** Are Prices Too Sticky? **AU** Ball, Laurence; Romer, David. **AA** Ball: Department of Economics, New York University. Romer: Department of Economics, Princeton University. **SR** National Bureau of Economic Research Working Paper: 2171; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PR** $2.00. **JE** 023, 131, 227, 611. **KW** Price Rigidity. Fluctuation. Demand Stabilization. Sticky Prices.

AB This paper shows that small costs of changing nominal prices can lead to rigidities that cause highly inefficient fluctuations in real variables. As a result, aggregate demand stabilization can be very desirable even though the frictions that cause fluctuations in aggregate demand to have real effects are slight. Inefficient price rigidity arises because rigidity has a negative externality: rigidity in one firm's price increases the variability of real aggregate demand, which hurts all firms. The externality can be arbitrarily large relative to the private costs of rigidity.

Bar, Ilan Avner

PD February 1987. **TI** The Life-Cycle Permanent-Income Model and Consumer Durables. **AU** Bar, Ilan Avner; Blinder, Alan S. **AA** Bar-Ilan: Department of Economics, Dartmouth College. Blinder: Department of Economics, Princeton University. **SR** National Bureau of Economic Research Working Paper: 2149; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PR** $2.00. **JE** 023, 921. **KW** Life Cycle Hypothesis. Permanent Income Hypothesis. Optimal Path. Lumpy Transactions Costs.

AB This paper presents an extension of the life-cycle permanent-income model of consumption to the case of a durable good whose purchase involves lumpy transactions costs. Where individual behavior is concerned, the implications of the model are different in some respects from those of standard consumption theory. Specifically, rather than choose an optimal path for the service flow from durables, the optimizing consumer will choose an optimal range and try to keep his service flow inside that range. The dynamics implied by this behavior is different from that of the stock adjustment model. Properties of aggregate durables consumption are derived by explicit aggregation. In particular, it is shown that expenditures on durables display very large short-run elasticity to changes in permanent income. Empirical tests of the sort suggested by Hall (1978) generally produce results that are in line with the predictions of the theory.

Bardhan, Pranab

TI Credit Markets and Patterns of International Trade. **AU** Kletzer, Kenneth; Bardhan, Pranab.

Bazerman, Max H.

TI Divergent Expectations as a Cause of Disagreement in Bargaining: Evidence From a Comparison of Arbitration Schemes. **AU** Farber, Henry S.; Bazerman, Max H.

PD January 1987. **TI** Divergent Expectations as a Cause of Disagreement in Bargaining: Evidence From A Comparison of Arbitration Schemes. **AU** Bazerman, Max H.; Farber, Henry S. **AA** Bazerman: Northwestern University. Farber: Department of Economics, Massachusetts Institute of Technology. **SR** National Bureau of Economic Research Working Paper: 2139; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PR** $2.00. **JE** 832, 026, 833. **KW** Bargaining. Arbitration. Settlement. Negotiation. Dispute. Labor. Management.

AB One prominent explanation for disagreement in bargaining is that the parties have divergent and relatively optimistic expectations regarding the ultimate outcome if they fail to agree. The fact that settlement rates are much higher where final-offer arbitration is the dispute settlement procedure than where conventional arbitration is the dispute settlement procedure is used as the basis of a test of the role of divergent expectations in causing disagreement in negotiations. Calculations of identical-expectations contract zones using existing estimates of models of arbitrator behavior yield larger identical-expectations contract zones in conventional arbitration than in final-offer arbitration. This evidence clearly suggests that divergent expectations alone are not an adequate explanation of disagreement in labor-management negotiations. A number of alternative explanations for disagreement are suggested and evaluated.

Bean, Charles R.

PD November 1986. **TI** The Macroeconomic Consequences of North Sea Oil. **AA** Centre for Labour Economics, London School of Economics. **SR** London School of Economics Centre for Labour Economics Discussion Paper: 262; Centre for Labour Economics, London School of Economics, Houghton Street, London WC2A 2AE, ENGLAND. **PG** 57. **PR** No Charge. **JE** 122, 212, 323, 431, 023, 132, 723, 632. **KW** North Sea Oil. Exchange Rates. Debt Neutrality. Manufacturing Sector. Oil Revenues. Tax Burden. Britain. United Kingdom. Petroleum.

AB The discovery of North Sea oil and the increase in real oil prices significantly increased national wealth. However, manufacturing output has declined both absolutely, and as a share of GDP, since 1973, while the real exchange rate has appreciated. Theoretical considerations suggest the two phenomena may be connected. A windfall of foreign exchange (in the form of oil) can be expected to lead to an expansion of services and a decline in manufacturing, and will generally produce an appreciation of the real exchange rate. Simulations of a small macroeconometric model suggest that without oil the real exchange rate would have been about 12 per cent lower in the first half of the eighties, but that manufacturing output would actually have been lower rather than higher. However, the oil price shocks also imparted a contractionary stimulus to the economy. The

net effect of North Sea oil and the oil price shocks was to reduce manufacturing output by 2 per cent and raise services output by 1 1/4 per cent. Oil played a significant, but by no means exclusive role in the appreciation of Sterling in 1979-80. Evidence also suggests that consumers did not rationally anticipate the lowering of the tax burden due to oil. A debt-financed tax cut by the government was therefore called for during the second half of the seventies. Finally intergenerational equity suggests that surplus oil revenues above the "permanent income" equivalent should be invested. This would limit the contraction of the manufacturing sector and eliminate any re-entry problems due to "hysteresis" effects.

PD December 1986. **TI** Real Wage Rigidity and the Effect of an Oil Discovery. **AA** Centre for Labour Economics, London School of Economics. **SR** London School of Economics Centre for Labour Economics Discussion Paper: 269; Centre for Labour Economics, London School of Economics, Houghton Street, London WC2A 2AE, ENGLAND. **PG** 15. **PR** No Charge. **JE** 431, 212, 323, 122, 824, 723, 632. **KW** North Sea Oil. Exchange Rates. Debt Neutrality. Rigid Wages. Petroleum. Overshooting.

AB This paper analyses the effect of an oil discovery when there is sluggish adjustment of real rather than nominal wages. A temporary recession (boom) will occur if the share of non-tradable employment in total employment is small (large) relative to the share of non-tradable consumption in total consumption and if the elasticity of non-tradable employment with respect to wages is small (large) relative to the wage elasticity of employment in tradables. It is also shown that the real exchange rate overshoots (undershoots) if there is a recession (boom).

PD February 1987. **TI** Budget Deficits, Interest Rates and the Incentive Effects of Income Tax Cuts. **AU** Bean, Charles R.; Wijnbergen, Sweder Van. **AA** Bean: London School of Economics and Centre for Economic Policy Research. Wijnbergen: World Bank and Centre for Economic Policy Research. **SR** London School of Economics Centre for Labour Economics Discussion Paper: 270; Centre for Labour Economics, London School of Economics, Houghton Street, London WC2A 2AE, U.K. **PR** No Charge. **JE** 323, 322, 311, 313, 431, 023. **KW** Budget Deficits. Interest Rates. Incentives. Income Taxes. Investment. Saving.

AB This paper examines the effects of tax cuts in a multi-country world where both labour supply and capital formation are endogenous and taxes are distortionary. We highlight four channels through which tax cuts affect interest rates and the economy in general (i) an increase in the supply of government debt; (ii) increased tax revenues through increased activity; (iii) increased savings through an increase in the post-tax return on savings; (iv) increased investment through an increase in the marginal product of capital. The latter increase may be related either to the tax change directly, in the case of capital taxation, or indirectly through tax-triggered future factor price changes. The latter channel is important in the case of labour taxes. Tax cuts do not necessarily lead to a rise in interest rates in either the short term of the long term and welfare both at home and abroad may either increase or decrease; no general statement can be made without explicitly identifying which distortionary taxes are being changed. Even then ambiguities can arise; however, we show, in our analysis of adjustment dynamics, how the response of the real term structure to the tax reform differs in different cases.

Bebchuk, Lucian Arye

PD February 1987. **TI** Suing Solely to Extract a Settlement Offer. **AA** Harvard Law School. **SR** National Bureau of Economic Research Working Paper: 2161; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PR** $2.00. **JE** 916, 026. **KW** Litigation. Trial. Civil Suit. Settlement Offer. Plaintiff.

AB In many disputes, the expected value to the plaintiff from going to trial is negative, either because the chances of winning are small or because the litigation costs are large. While such a plaintiff would not go to trial, he might sue in the hope of extracting a settlement offer: the defendant might make such an offer if he is uncertain as to whether or not the expected value to the plaintiff of going to trial is negative. This paper seeks to identify the factors that determine: (i) whether a plaintiff who does not intend to go to trial will nonetheless succeed in extracting an offer; and (ii) how much will such a plaintiff succeed in extracting.

Becker, Robert A.

PD January 1987. **TI** Recursive Utility and Optimal Capital Accumulation, I: Existence. **AU** Becker, Robert A.; Boyd, John H.; Sung, Bom Yong. **AA** Becker: Department of Economics, Indiana University. Boyd: Department of Economics, University of Rochester. Sung: Korea Institute for Economics and Technology. **SR** University of Rochester Center for Economic Research Working Paper: 68; Department of Economics, University of Rochester, Rochester, NY 14627. **PG** 36. **PR** No Charge. **JE** 022, 111, 021. **KW** Recursive Utility. Upper Semicontinuity. Capital Stocks.

AB This paper demonstrates existence of optimal capital accumulation paths when the planner's preferences are represented by a recursive objective functional. Time preference is flexible. We cast our problem in terms of a general multiple capital good reduced-form model motivated by the Uzawa-Epstein-Hynes formulation of continuous-time recursive utility. Existence of optimal paths is addressed via the classical Weierstrass method. We thus choose a topology where the objective is upper semicontinuous and the feasible set is compact. This is the topology of uniform convergence of capital stocks on compact subsets. On feasible sets it is equivalent to weak convergence of investment flows under our maintained hypotheses. An improved version of a lemma due to Varaiya proves compactness. Unfortunately, Fatou's Lemma cannot be used to show preferences are upper semicontinuous as stock convergence in our topology does not imply the existence of a subsequence where the flow variables converge almost everywhere. A monotonicity argument is combined with a powerful theorem of Cesari to demonstrate upper semicontinuity.

Benabou, Roland

PD October 1986. **TI** Search, Price Setting and

Inflation. **AA** CEPREMAP. **SR** CEPREMAP Discussion Paper: 8622; CEPREMAP, 142 rue du Chevaleret, 75013 Paris, FRANCE. **PG** 41. **PR** $20.00 FF. **JE** 611, 134, 023, 022, 026. **KW** Competition. Inflation. Price. Search. Monopolistic Competition.

AB A model of monopolistic competition embodying optimal sequential search, price dynamics and entry on the part of consumers and firms in an inflationary environment is developed. Equilibrium price strategies are (S,s) and these bounds define price dispersion in the market; this in turn determines optimal search, hence demand, which finally regenerates -- as a fixed point -- the equilibrium price strategies and number of firms in the market. The real price bounds (S,s) increase continuously with consumer search costs, and so does price dispersion. Indeed, the whole equilibrium varies smoothly from the competitive (Bertrand) to the monopolistic (Diamond '1971) end of the spectrum. The latter's paradoxical result is explained as a limiting case where frictions on firms' side of the market only (price adjustment costs) tend to zero. Finally, the aggregate rate of inflation (even smooth and anticipated) is shown to alter relative prices and to cause increasing price dispersion or uncertainty. This last result provides a theoretical foundation for the many empirical studies which have established this correlation.

Benard, Jean

PD January 1987. **TI** Survey on Regulation Theories. **AA** CEPREMAP. **SR** CEPREMAP Discussion Paper: 8702; CEPREMAP, 142 rue du Chevaleret, 75013 Paris, FRANCE. **PG** 82. **PR** FF. **JE** 612, 022, 025, 024. **KW** Regulation. Deregulation. Natural Monopoly. Prices. Ramsey-Boiteux Prices. Cross Subsidies. Political Support.

AB This theoretical survey deals with microeconomic regulations about prices and resources allocation and not with macroeconomic controls. It uses successively three paradigms: social welfare economic efficiency, political support (i.e. economic rationality of political choices), and economic equity. The economic efficiency paradigm is applied to the increasing returns and natural monopoly situations. It refers to recent works, initiated by Baumolet al, and to concepts such as "price or quantity sustainability", "weak invisible hand" and "second best prices". The political support paradigm, developed by Peltzman, may be used in any case but seems especially useful for explaining public regulations (or deregulations) of (imperfect) competitive sectors. The third paradigm (equity) applies both to openly redistributive price regulations and to fair arbitration between producers and consumers.

Benhabib, Jess

PD August 1986. **TI** On Competitive Cycles in Productive Economies. **AU** Benhabib, Jess; Laroque, Guy. **AA** Benhabib: New York University. Laroque: INSEE. **SR** Stanford Institute for Mathematical Studies in the Social Sciences (Economics Series) Technical Report: 490; Institute for Mathematical Studies in the Social Sciences, Encina Hall, Fourth Floor, Stanford University, Stanford, CA 94305. **PG** 44. **PR** $4.00. **JE** 023, 021, 022, 131. **KW** Overlapping Generations. Cycles. Competition. Bifurcation. Golden Rule.

AB The paper studies an overlapping generation economy with production, with a constant nominal quantity of outside money. The focus is on the possible existence of recurrent competitive equilibrium cycles near the golden rule steady state equilibrium. A full characterization of the economies where such cycles appear is provided, as well as a classification according to the nature of the cycle. An economic interpretation of the cyclical behavior of these economies is given.

Berliant, Marcus

PD January 1987. **TI** On the Continuum Approach of Spatial and Some Local Public Goods or Product Differentiation Models. **AU** Berliant, Marcus; ten, Raa Thijs. **AA** Berliant: Rochester University. ten Raa: Tilburg University. **SR** University of Rochester Center for Economic Research Working Paper: 72; Department of Economics, University of Rochester, Rochester, NY 14627. **PG** 37. **PR** No Charge. **JE** 021, 022, 611, 931. **KW** General Equilibrium. Location Theory. Land. Public Goods. Product Differentiation. Spatial Economies.

AB Models with a continuum of consumers and locations such that consumers can purchase goods in only one location are examined. Examples satisfying the usual assumptions but without equilibrium are given. An approximation by economies with a finite number of consumers is shown to fail. The results are related to the literatures concerning product differentiation and spatial economies.

Bester, Helmut

PD May 1986. **TI** Open Market Operations and the Nonneutrality of Money. **AA** University of Bonn. **SR** Universitat Bonn Sonderforschungsbereich 303 - Discussion Paper: A-55; Sonderforschungsbereich 303 an der Universitat Bonn, Adenaueralle 24-42, D-5300 Bonn 1, DEUTSCHLAND. **PG** 23. **PR** No Charge. **JE** 023, 311. **KW** Open Market Operations. Monetary Policy. Portfolio Holdings.

AB This paper analyzes open market operations and welfare in the steady state. Because of imperfections in credit and futures markets, optimizing agents hold both fiat money and a productive asset with different rates of return. Open market operations consist of government purchases of the productive asset and selling its return for money. They are shown to affect private consumption and portfolio holdings in the steady state. The welfare maximizing monetary policy uses open market operations to deflate the supply of money and the price level.

PD May 1986. **TI** Die Anreizfunktion von Kredit Vertragen Bei Unvollstandiger Information. **AA** Universitat Bonn. **SR** Universitat Bonn Sonderforschungsbereich 303 - Discussion Paper: A-51; Sonderforschungsbereich 303 an der Universitat Bonn, Adenauerallee 24-42, D-5300 Bonn 1, DEUTSCHLAND. **PG** 17. **PR** No Charge. **JE** 315, 313, 312, 521. **KW** Credit Contracts. Imperfect Information. Risk. Collateral Requirements. Loans.

AB This paper analyzes optimal credit contracts under imperfect information. The design of loan contracts constitutes an incentive problem because the lender cannot monitor the riskiness of the borrower's investment decision. It is shown that collateral requirements or a

reduction of the loan size may induce the borrower to select less risky projects. In the credit market equilibrium each borrower would prefer a larger loan size at the given interest rate. Yet, there is no rationing in the sense that some loan applicants are being rejected.

Blanchflower, David G.

PD February 1987. **TI** Shares for Employees: A Test of Their Effects. **AU** Blanchflower, David G.; Oswald, Andrew J. **AA** Blanchflower: University of Surrey. Oswald: Centre for Labour Economics, London School of Economics. **SR** London School of Economics Centre for Labour Economics Discussion Paper: 273; Centre for Labour Economics, London School of Economics, Houghton Street, London WC2A 2AE, U.K. **PG** 35. **PR** No Charge. **JE** 824, 825, 821, 513, 514. **KW** Profit Sharing. Employment. Employee Ownership. Incentives. Industrial Relations. Capital Investment. Labor productivity.

AB Various economists and politicians have recently argued that "sharing arrangements may. have important merits for the improvement of incentives and of industrial relations, and for the promotion of a high and stable level of employment" (James Meade (1986)). The British and U.S. governments now subsidise employee share ownership schemes (presumably for this reason), but there have been almost no systematic attempts to estimate the extent of the benefits from such schemes. Using a sample of 637 manufacturing plants the paper tests the hypothesis that employee share ownership affects employment and capital investment. It concludes that there is no evidence of any effect.

PD March 1987. **TI** Internal and External Influences Upon Pay Settlements: New Survey Evidence. **AU** Blanchflower, David G.; Oswald, Andrew J. **AA** Blanchflower: University of Surrey. Oswald: Centre for Labour Economics, London School of Economics. **SR** London School of Economics Centre for Labour Economics Discussion Paper: 275; Centre for Labour Economics, London School of Economics, Houghton Street, London WC2A 2AE, U.K. **PG** 16. **PR** No Charge. **JE** 824, 821, 825. **KW** Wages. Insider. Outsider. Labor Productivity. Britain.

AB The paper reports the results of a nationally representative British survey which asked 1,267 personnel managers 'What factors influenced the level of pay decided upon in the most recent settlement?' The results reveal the importance of internal influences such as profitability and productivity. This is consistent with
insider-outsider' theories of the labour market and inconsistent with the classical competitive model.

Blinder, Alan S.

TI The Life-Cycle Permanent-Income Model and Consumer Durables. **AU** Bar, Ilan Avner; Blinder, Alan S.

Blitzer, Charles R.

PD February 1987. **TI** Project Appraisal and Foreign Exchange Constraints: A Simple Exposition. **AU** Blitzer, Charles R.; Dasgupta, Partha; Stiglitz, Joseph E. **AA** Blitzer: Energy Laboratory, Massachusetts Institute of Technology. Dasgupta: Faculty of Economics and Politics, Cambridge University. Stiglitz: Department of Economics, Princeton University. **SR** National Bureau of Economic Research Working Paper: 2165; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PR** $2.00. **JE** 421, 422, 227, 431. **KW** Traded Goods. Shadow Prices. Border Price Rule. Non-Traded Goods. Tariff.

AB In an earlier paper, we showed that the value of shadow prices depends on how the government contemplates reequilibrating the economy to the perturbation associated with any project, except in the extreme case where the government has chosen all policy instruments optimally. Only under restrictive conditions will relative shadow prices for traded goods equal relative international prices. We develop here a general methodology for calculating shadow prices, which expresses the prices as a weighted average of domestic and international prices. The formulae provide the conditions under which the border price rule is valid. For instance, so long as there are non-traded goods, even if the government leaves tariffs unchanged (so that relative domestic prices of traded goods remain unchanged), unless the government completely neutralizes the induced change in domestic income, there will be changes in the prices of non-traded goods. These will preclude the use of the border price rule.

Boadway, Robin W.

PD 1986. **TI** Ex Post versus Ex Ante Optimal Policies for Risky Activities. **AU** Boadway, Robin W.; Wildasin, David E. **AA** Boadway: Queen's University. Wildasin: Indiana University. **SR** Queen's Institute for Economic Research Discussion Paper: 676; Department of Economics, Queen's University, Kingston, Ontario, CANADA K7L 3N6. **PG** 45. **PR** $3.00 Canada; $3.50 United States and Foreign. **JE** 321, 322, 323, 821, 023. **KW** Risk. Taxation. Government Policy. Taxes. Subsidies. Labor Allocation.

AB This paper analyzes the role of government policy when random shocks affect particular industries, occupations, or regions. Workers can freely choose an industry or occupation ex ante, and can relocate, but only at a cost, once uncertainty is resolved. The policy instruments available to the government are per capita taxes and subsidies. These are chosen either to maximize ex post utilitarian aggregate welfare, treating the initial assignment of workers as exogenously fixed (ex post optimal policy), or to maximize the ex ante expected utility of a representative worker, taking the effect of policy choice on the ex ante allocation of labour into account (ex ante optimal). Ex ante and ex post optimal policies are compared, with or without institutional constraints on the set of instruments. Optimal policies range from complete equalization of net incomes across workers to no equalizing transfers at all.

Bold, Christoph

PD December 1986. **TI** Order-Degree Sequences. **AA** University of Cologne. **SR** Universitat Bonn Sonderforschungsbereich 303 - Discussion Paper: 86/38; Sonderforschungsbereich 303 an der Universitat Bonn, Adenauerallee 24-42, D-5300 Bonn 1, DEUTSCHLAND. **PG** 10. **PR** No Charge. **JE** 213. **KW** Ordered Vertex Colorings. Connectivity. Order-Degree Sequences.

Coverings. Graphs. Independence Numbers.
AB We introduce a new graph theoretic parameter called order-degree sequence and study its impact on connectivity, edge connectivity, vertex and edge coverings and independence numbers. In this paper, all graphs are supposed to be simple. The following definition was inspired through ordered vertex colorings introduced by Cockayne and Thomason.

Bos, Dieter

PD October 1986. **TI** Privatization, Efficiency and Market Structure. **AU** Bos, Dieter; Peters, Wolfgang. **AA** University of Bonn. **SR** Universitat Bonn Sonderforschungsbereich 303 - Discussion Paper: A-79; Sonderforschungsbereich 303 an der Universitat Bonn, Adenauerallee 24-42, D-5300 Bonn 1, DEUTSCHLAND. **PG** 25. **PR** No Charge. **JE** 612, 614, 611, 616. **KW** Efficiency. Public Enterprises. Monopolistic Market Structure. Privatization. Oligopolistic Market Structure.
AB Privatization typically increases the productive efficiency of public enterprises. However, in the case of monopolistic or oligopolistic market structure the involved enterprises will switch to higher profits and therefore exploit the consumers. In that case only so many shares should be sold as to equate the social valuation of the efficiency increases and the social valuation of the profit increases. The partially privatized firm does not work at the overall production possibility frontier: unwanted profit increases do not allow to exhaust fully the potential increases in efficiency. Only in a perfectly competitive market structure the firm should always fully be privatized.

Boskin, Michael J.

PD January 1987. **TI** New Estimates of State and Local Government Tangible Capital and Net Investment. **AU** Boskin, Michael J.; Robinson, Marc; Huber, Alan M. **AA** Boskin: National Bureau of Economic Research, Stanford. Robinson: Societal Analysis Division, GM Research Labs. Huber: Department of Economics, Stanford University. **SR** National Bureau of Economic Research Working Paper: 2131; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PR** $2.00. **JE** 324, 614, 224. **KW** State Government. Local Government. Government Capital. Government Investment.
AB Measures of the state and local government capital stock and investment are necessary inputs into several areas of economic analysis, including the measurement of national wealth and its growth. We estimate net investment and depreciation of state and local government nonresidential capital. In aggregate, we estimate a net state and local nonresidential capital stock of $1.8 trillion in 1985, 17 per cent larger than that estimated by the Bureau of Economic Analysis. Net state and local government investment has exceeded the state and local deficit annually for the last forty-five years. While the fraction of state and local purchase of goods and services devoted to net investment has fallen, it has exceeded federal government net capital formation except during defense buildups and has averaged more than 40 per cent of private fixed nonresidential net investment since 1951. Similar comparisons reveal that the state and local government net capital stock substantially exceeds state and local debt, and is about twice the federal government capital stock.

PD January 1987. **TI** Social Security and the American Family. **AU** Boskin, Michael J.; Puffert, Douglas. **AA** Boskin: National Bureau of Economic Research, Stanford. Puffert: Stanford University. **SR** National Bureau of Economic Research Working Paper: 2117; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PR** $2.00. **JE** 915, 323, 921. **KW** Social Security. Family. United States. Benefits. Taxes. Transfers. Marriage Penalty.
AB This paper presents the results of a computer simulation of the expected present value of benefits, taxes, and transfers, rates of return, and marginal linkage of benefits and taxes for persons of different income levels and family status. A number of important issues associated with the "deal" and incentives projected to be offered by the current social security system for different family situations are treated: married versus single persons, number of earners in the family and the division of earnings between them, and the special situation of widows and divorcees. The results show tremendous variation for different family situations and often dwarf amounts at stake for most families in the recent debates over income tax reform. We pay particular attention to items such as marriage penalties and subsidies, incentives to postpone divorce and low marginal linkage of expected benefits to incremental taxes paid by women, whether as second earners in a family, divorcees or widows.

Boudreau, Bryan

TI Information, Returns, and Bidding Behavior in OCS Auctions: 1954-1969. **AU** Hendricks, Kenneth; Porter, Robert H.; Boudreau, Bryan.

Boyd, John H.

TI Recursive Utility and Optimal Capital Accumulation, I: Existence. **AU** Becker, Robert A.; Boyd, John H.; Sung, Bom Yong.

Bradbury, Katharine L.

PD March 1987. **TI** City Taxes and Property Tax Bases. **AU** Bradbury, Katharine L.; Ladd, Helen F. **AA** Bradbury: Federal Reserve Bank of Boston. Ladd: Duke University. **SR** National Bureau of Economic Research Working Paper: 2197; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PR** $2.00. **JE** 324, 323. **KW** Property Taxes. Municipal Taxes. Tax Rates. Sales Tax.
AB This paper investigates the simultaneous relationship between tax rates and city property tax bases using data for 86 large United States cities in 1967, 1972, 1977, and 1982. We find that a 10 percent increase in the city's property tax rate decreases the city's tax base by about 1.5 percent. In addition, local income taxes and taxes levied by overlying jurisdictions (such as county and state governments) also have negative impacts on the city's property tax base. Local sales taxes, in contrast, appear to have little impact. We conclude that taxes affect local property values more than is typically implied by previous

studies that have investigated the impacts of state and local taxes on firms' location decisions.

Braga, de Macedo Jorge

PD March 1987. **TI** Currency Inconvertibility, Trade Taxes and Smuggling. **AA** UNL-New University of Lisbon. **SR** National Bureau of Economic Research Working Paper: 2177; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PR** $2.00. **JE** 916, 421, 422, 411, 431. **KW** Smuggling. Trade Taxes. Inconvertibility. Exchange Rate. Illegal Trade. Black Market. Confiscation. Capital Flight.

AB In the classic analysis of smuggling importers choose the optimal mix of legal and illegal trade, given trade taxes and the technology of detection. This paper introduces an inconvertible currency in the framework, so that illegal trade is valued at a rate higher than the (fixed) official exchange rate. Sections 1 and 2 show how the smuggling ratio and the domestic price markup for the import and export good are simultaneously determined. With balanced legal and illegal trade, changes in the (long-run) black market premium are a weighted average of changes in trade taxes, whereas changes in the smuggling ratios depend on the ratio of trade taxes. Thus, an import tariff and an export subsidy rising at the same rate would keep smuggling ratios constant but imply a rising black market premium (section 3 and 4). To determine the quantity of exports and imports, a model of the economy is presented in section 5, featuring the production of exports and non-traded goods and the consumption of imports and non-traded goods, as well as a government confiscating the amounts of traded goods unsuccessfully smuggled. Then export production may fall, and welfare may rise, if trade taxes have a negative effect on the relative price of exports and imports stronger than the positive effect on smuggled exports and imports, which is always welfare-reducing. Section 6 introduces the short-run determination of the black market premium via portfolio balance. In this case, rising trade taxes may be associated with a premium rising even faster if there is unreported capital flight and conversely.

Braid, Ralph M.

PD August 1986. **TI** Consistent Conjectural Variations and Collusion in Spatial Competition. **AA** Department of Economics, Columbia University. **SR** Columbia Department of Economics Working Paper: 333; Department of Economics, Columbia University, New York, NY 10027. **PG** 25. **PR** $5.00. **JE** 611, 022. **KW** Conjectural Variation. Collusion. Spatial Competition. Nash Equilibrium. Chain Store.

AB This paper examines the extent to which collusion increases the prices of immobile stores on an infinite line, in a model of spatial competition with consistent conjectural variations. Collusion is modeled by assuming that each store is a member of a retail chain (coalition). The stores within each retail chain collude perfectly with each other, but there is no collusion between retail chains. Collusion does not increase Nash equilibrium prices if none of the stores in any retail chain are nearest neighbors. However, once positive conjectural variations are incorporated, collusion can increase equilibrium prices significantly, by increasing the consistent value of the conjectural variation (the price increase any store expects from its neighbors if it increases its own price by one unit).

PD September 1986. **TI** Entry in a Growing Spatially Competitive Market. **AA** Department of Economics, Columbia University. **SR** Columbia Department of Economics Working Paper: 334; Department of Economics, Columbia University, New York, NY 10027. **PG** 27. **PR** $5.00. **JE** 611, 022. **KW** Market Entry. Spatial Competition. Nash Equilibrium. Conjectural Variation.

AB This paper examines entry in a spatially competitive market with a growing demand density. The basic model assumes infinitely many immobile stores along an infinite line and Nash equilibrium price determination. Starting with uniform spacing at distance R, the increase in demand density that is necessary to attract a single entrant is significantly less than the increase that is necessary to attract a whole round of new entry that results in uniform spacing at distance R/2. This differs from optimal entry. The model is extended in two ways. First, Nash equilibrium price determination is replaced by consistent conjectural variations. Second, the infinite line is replaced by a finite circular market, which allows a more complete analysis of the timing of entry.

PD February 1987. **TI** Uniform versus Peak-Load Pricing of a Bottleneck with Elastic Demand. **AA** Department of Economics, Columbia University. **SR** Columbia Department of Economics Working Paper: 338; Department of Economics, Columbia University, New York, NY 10027. **PG** 24. **PR** $5.00. **JE** 022, 615, 024. **KW** Peak Load Pricing. Bottleneck. Peak Load Toll. Queueing. Traffic.

AB This paper considers commuting to work across a bottleneck such as a bridge or tunnel. The optimal peak-load toll eliminates socially wasteful queueing. With downward-sloping demand, it is meaningful to consider a second-best uniform toll, in case a time-varying toll cannot be imposed. The optimal total traffic, which results from the optimal peak-load toll, is the same as the no-toll total traffic. The second-best total traffic, which results from the second-best uniform toll, is less than this. The second-best uniform toll may be larger or smaller than the maximum value of the optimal peak-load toll.

Brandt, Loren

PD February 1987. **TI** Interpreting New Evidence About China and U.S. Silver Purchases. **AU** Brandt, Loren; Sargent, Thomas J. **AA** Brandt: University of Toronto, National Fellow, Hoover Institution. Sargent: University of Minnesota, Visiting Scholar, Hoover Institution. **SR** Stanford Hoover Institute Working Paper in Economics: E-87-3; Domestic Studies Program Working Paper Series, Hoover Institution, Stanford University, Stanford, CA 94305. **PG** 44. **PR** No Charge. **JE** 045, 310. **KW** China. Free Banking. Commodity Standard. Silver Policy. Government Finance. Financial System.

AB This paper offers a reinterpretation of the influence of American silver policy on China in the early 1930s and its decision to go off silver in 1935. Recently compiled evidence about events in China inconsistent with existing

interpretations are examined and explained in light of a model of free banking under a commodity standard. During this period China operated under a system of free banks offering to convert their notes and deposits into silver. Our analysis suggests that the Government's motivation for nationalizing silver and instituting a fiat standard in November of 1935 was to make itself the beneficiary of the capital gains associated with the rising international price of silver, and to relieve itself of the restrictions that are imposed on government finance by a financial system that is obeying a commodity standard.

Broze, L.

PD September 1986. **TI** Identification and Consistent Estimation of Multivariate Linear Models with Rational Expectations of Current Variables. **AU** Broze, L.; Gourieroux; Szafarz, A. **AA** Broze and Szafarz: University of Brussels. Gourieroux: CEPREMAP. **SR** CEPREMAP Discussion Paper: 8617; CEPREMAP, 142 rue du Chevaleret, 75013 Paris, FRANCE. **PG** 57. **PR** No Charge. **JE** 211. **KW** Multivariate Linear Models. Identification. Consistent Estimators. Rational Expectations. Instrumental Variables.

AB This paper deals with the identification and the estimation of multivariate models which include rational expectations of current variables. In the dynamic case, two concepts of identifiability (weak and strong) are introduced depending on the information set chosen by the econometrician. They lead to specific conditions and allow for a reconsideration of the observational distinguishability between rational expectations and perfect foresight. Also each concept appears to give a necessary and sufficient condition for the consistency of a specific estimator.

Bulow, Jeremy I.

PD December 1986. **TI** A Constant Recontracting Model of Sovereign Debt. **AU** Bulow, Jeremy I.; Rogoff, Kenneth. **AA** Bulow: Stanford University, University of Chicago. Rogoff: University of Wisconsin and National Fellow Hoover Institution. **SR** Stanford Hoover Institute Working Paper in Economics: E-86-69; Domestic Studies Program Working Paper Series, Hoover Institution, Stanford University, Stanford, CA 94305. **PG** 58. **PR** No Charge. **JE** 433, 443, 026. **KW** Foreign Debt. Bargaining. Recontracting. Default.

AB Few sovereign debtors have repudiated their obligations entirely. But despite the significant sanctions at the disposal of lenders, many borrowers have been able to consistently negotiate for reduced repayments. This paper presents a model of the on-going bargaining process that determines repayment levels. We derive a bargaining equilibrium in which countries with large debts achieve negotiated partial default. The ability to credibly threaten more draconian penalties in the event of repudiation may be of no benefit to lenders. Furthermore, unanticipated increases in world interest rates may actually help the borrowers by making lenders more impatient for a negotiated settlement. Finally, Western governments may be induced to make payments to facilitate reschedulings even though efficient agreements will be reached without their intervention.

Cagan, Phillip

PD October 1986. **TI** Disinflation, the Dollar, and Velocity. **AA** Department of Economics, Columbia University. **SR** Columbia Department of Economics Working Paper: 335; Department of Economics, Columbia University, New York, NY 10027. **PG** 29. **PR** $5.00. **JE** 134, 131, 311, 023, 431. **KW** Disinflation. Velocity of Money. Inflation. Dollar Appreciation. Exchange Rate. Fluctuation. Monetary Policy.

AB The rate of inflation, which contracted sharply from 1980 to 1982, declined even further in the ensuing business recovery. The further decline largely reflected gluts in grains and other basic commodities as well as the 1985 collapse of oil prices. The underlying rate as indicated by general labor costs stabilized at around 4 percent per year. Although that was high by any peacetime standard except for the rampant inflation of the 1970s, the failure to escalate in 3-1/2 years of business expansion as of mid-1986 was uncharacteristic of past cyclical fluctuations in inflation. Compared with earlier unsuccessful efforts to contain inflation, the 1980s seemed to exhibit special disinflationary influences. An obvious special influence was the appreciation of the dollar which reduced import prices and intensified foreign competition. The strong dollar could be attributed to a fiscal deficit of unusual magnitude which attracted a foreign demand for dollars to invest in Treasury securities. When the dollar finally began to depreciate in 1985, many feared this would raise prices further as import prices reflected the exchange rate with a lag. But so far the effect of fluctuations in the dollar on inflation appears minor. Foreign competition played a secondary role in the disinflation, and so the depreciating dollar should not prevent the continued containment of inflation. The containment has depended more on restrained economic growth and ample productive capacity to avoid inflationary pressures than on foreign competition. The wage give-backs that foreign competition forced in certain unionized industries have no doubt indirectly subdued inflationary expectations in other sectors. Nevertheless, unlike previous business expansions following recessions, aggregate demand in the first half of the 1980s did not push the economy into the zone of inflationary pressures. Yet monetary policy did not withhold stimulus but sought to revive economic activity and reduce interest rates. Monetary growth returned after the 1981-82 recession to the inflation-generating rates of the 1970s. The monetary growth was offset, however, by an unusual slowing of velocity growth. The unexpected behavior of velocity increased the uncertainty surrounding monetary policy and led the Federal Reserve to loosen its earlier adherence to monetary targeting. This chapter examines the effect of the dollar on inflation and the behavior of velocity and discusses their implications for the containment of inflation and conduct of monetary policy.

Campbell, John

PD March 1986. **TI** Cointegration and Tests of Present Value Models. **AU** Campbell, John Y.; Shiller, Robert J. **AA** Campbell: Department of Economics, Princeton University. Shiller: Cowles Foundation, Yale University. **SR** Princeton Econometric Research Program Memorandum: 323; Department of Economics, Princeton University, Princeton, NJ 08544. **PG** 41.

PR $2.00. **JE** 210, 211, 212, 313. **KW** Cointegration. Present Value models. Interest Rate. Optimal Forecast. VAR. Vector Autoregression. Stock Prices.

AB In a model where a variable Yt is proportional to the present value, with constant discount rate, of expected future values of a variable yt, the "spread" St = Yt - theta yt will be stationary for some theta whether or not yt must be differenced to induce stationarity. Thus, Yt and yt are cointegrated. The model implies that St is proportional to the optimal forecast of delta Yt+1, and also to the optimal forecast of St*, the present value of future delta yt. We use vector autoregressive methods, and recent literature on cointegrated processes, to test the model. When Yt is the long-term interest rate and yt the short-term interest rate, we find in postwar United States data that St behaves much like an optimal forecast of St* even though as earlier research has shown it is negatively correlated with delta Yt+1. When Yt is a real stock price index and yt the corresponding real dividend, using annual United States data for 1871-1986 we obtain less encouraging results for the model, although the results are sensitive to the assumed discount rate.

PD December 1986. **TI** The Dividend-Price Ratio and Expectations of Future Dividends and Discount Factors. **AU** Campbell, John Y.; Shiller, Robert J. **AA** Campbell: National Bureau of Economic Research, Cambridge. Shiller: Cowles Foundation, Yale University. **SR** National Bureau of Economic Research Working Paper: 2100; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PR** $2.00. **JE** 313, 521, 132. **KW** Dividends. Discount Factors. Rational Expectations. Stock Prices. Vector Autoregression. Dividend-Price Ratio.

AB A linearization of a rational expectations present value model for corporate stock prices produces a simple relation between the log dividend-price ratio and mathematical expectations of future log real dividend changes and future real discount rates. This relation can be tested using vector autoregressive methods. Three versions of the linearized model, differing in the measure of discount rates, are tested for United States time series 1871-1986: versions using real interest rate data, aggregate real consumption data, and return variance data. The results yield a metric to judge the relative importance of real dividend growth, measured real discount rates and unexplained factors in determining the dividend-price ratio.

TI Is Consumption Too Smooth? **AU** Deaton, Angus S.; Campbell, John.

PD January 1987. **TI** Is Consumption too Smooth? **AU** Campbell, John; Deaton, Angus. **AA** Campbell: National Bureau of Economic Research, Cambridge. Deaton: Woodrow Wilson School, Princeton University. **SR** National Bureau of Economic Research Working Paper: 2134; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PR** $2.00. **JE** 212, 921, 023, 131. **KW** Consumption. Permanent Income.

AB For thirty years, it has been accepted that consumption is smooth because permanent income is smoother than measured income. This paper considers the evidence for the contrary position, that permanent income is in fact less smooth than measured income, so that the smoothness of consumption cannot be straightforwardly explained by permanent income theory. Quarterly first differences of labor income in the United States are well described by an AR(1) with a positive autoregressive parameter. Innovations to such a process are "more than permanent;" there is no deterministic trend to which the series must eventually return, and good or bad fortune in one period can be expected to be at least partially repeated in the next. Changes to permanent income should therefore be greater than the innovations to measured income, and changes in consumption should be more variable than innovations to measured income. In fact, changes in consumption are much less variable than are income innovations. We consider two possible explanations for this paradox, first, that innovations to labor income are in reality much less persistent than appears from an AR(1), and second, that consumers have more information than do econometricians, so that only a fraction of the estimated innovations are actually unexpected by consumers. The univariate time series results are less than decisive, but the balance of the evidence, whether from fitting ARMA models or from examining the spectral density, is more favorable to the view that innovations are persistent than to the opposite view, that there is slow reversion to trend. The information question is taken up within a bivariate model of income and savings that can accommodate the feedback from saving to income that is predicted by the permanent income theory if consumers have superior information. Nevertheless, our results are the same; changes in consumption are typically smaller than those warranted by the change in permanent income. We show that our finding of "excess smoothness" is consistent with the earlier findings of "excess sensitivity" of consumption to income. Our analysis is conducted within a "logarithmic" version of the permanent income hypothesis, a formulation that recognizes that rates of growth of income and saving ratios have greater claim to stationarity than do changes in income and saving flows.

PD February 1987. **TI** The Dollar and Real Interest Rates. **AU** Campbell, John Y.; Clarida, Richard H. **AA** Campbell: National Bureau of Economic Research, Cambridge. Clarida: The Council of Economic Advisors. **SR** National Bureau of Economic Research Working Paper: 2151; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PR** $2.00. **JE** 431, 441, 313, 023, 212. **KW** Exchange Rate. Interest Rate. State-Space. Current Account. Rational Expectations.

AB In this paper, we investigate the link between the real foreign exchange value of the dollar and real interest rates since 1979. We argue that it is important to consider the possibility that real exchange rate movements reflect movements of the long-run equilibrium exchange rate as well as real interest differentials. We use a state-space approach to estimate the importance of shifts in the long-run equilibrium exchange rate, the persistence of the ex ante short-term real interest differential, and the effect of this differential on the exchange rate. Using United States, Canadian, British, German and Japanese data from October 1979 to March 1986, we find that movements in the dollar real exchange rate have been dominated by

unanticipated shifts in the expected long-run real exchange rate. Ex ante real interest differentials have not been persistent or variable enough to account for a major part of exchange rate variation. We use Mussa's (1984) rational expectations model of the real exchange rate and the current account to interpret our results.

Campos, Julia

PD February 1987. **TI** An Analogue Model of Phase-Averaging Procedures. **AU** Campos, Julia; Ericsson, Neil R.; Hendry, David F. **AA** Campos: Banco Central de Venezuela. Ericsson: International Finance Division, Federal Reserve Board. Hendry: Nuffield College. **SR** Board of Governors of the Federal Reserve System International Finance Discussion Paper: 303; International Finance Division, Board of Governors of the Federal Reserve System, Washington, D.C. 20551. **PG** 39. **PR** No Charge. **JE** 211, 212, 311, 122, 131, 132. **KW** Business Cycles. Conditional Models. Conditioning. Exogeneity. Marginalizing. Methodology. Money Demand. Phase Averages. Quantity Theory. Statistical Inference. Temporal Aggregation. Time Series. Velocity of Circulation.

AB This paper considers the statistical and econometric effects that fixed n-period phase-averaging has on time series generated by some simple dynamic processes. We focus on the variance and autocorrelation of the data series and of the disturbance term for levels and difference equations involving the phase-average data. Further, we examine the effect of phase-averaging on the exogeneity of variables in those equations and the implications phase-averaging has for conducting statistical inference. To illustrate our analytical results, we investigate claims by Friedman and Schwartz in their 1982 book Monetary Trends in the United States and the United Kingdom about what the properties of phase-average data and the relationships between those data ought to be. We present certain features of the observed series on velocity, examine how well our analytical model captures them, and contrast them with Friedman and Schwartz's predictions. While our model is an extremely simplified characterisation of the phase-averaging adopted by Friedman and Schwartz, it does offer several insights into the likely consequences of their approach.

Card, David

PD February 1987. **TI** Measuring the Effect of Subsidized Training Programs on Movements In and Out of Employment. **AU** Card, David; Sullivan, Daniel. **AA** Card: Department of Economics, Princeton University. Sullivan: Department of Economics, Northwestern University. **SR** National Bureau of Economic Research Working Paper: 2173; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PR** $2.00. **JE** 811, 851, 824, 914. **KW** CETA. Comprehensive Employment and Training Act. Unemployment. Training. Classroom Training. On-The-Job Training.

AB We present a variety of alternative estimates of the effect of training on the probability of employment for adult male participants in the 1976 Comprehensive Employment and Training Act (CETA) program. Our results suggest that CETA participation increased the probability of employment in the three years after training by from 2 to 5 percentage points. Classroom training programs appear to have had significantly larger effects than on-the-job programs, although the estimated effects of both kinds of programs are consistently positive. We also find that movements in and out of employment for the trainees and a control group of nonparticipants are reasonably well described by a first-order Markov process, conditional on individual heterogeneity. In the context of this model, CETA participation appears to have increased both the probability of moving into employment, and the probability of continuing employment.

Cardoso, Eliana A.

PD February 1987. **TI** Brazil's Tropical Plan. **AU** Cardoso, Eliana A.; Dornbusch, Rudiger. **AA** Cardoso: Fletcher School of Law and Diplomacy and Tufts University. Dornbusch: Massachusetts Institute of Technology. **SR** National Bureau of Economic Research Working Paper: 2142; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PR** $2.00. **JE** 133, 134, 112, 113, 321, 311, 121. **KW** Inflation. Stabilization Policy. Brazil. Incomes Policy. Price Freeze. Fiscal Restraint.

AB This paper highlights the institutional features of the inflation process and contrasts two stabilization efforts in 1964-66 and in 1986. The inflation process in Brazil is highly institutional. It does not resemble hyperinflations where pricing and wage setting are geared to the exchange rate by the hour, making it possible to stop inflation by simply containing money creation and fixing the exchange rate. The two stabilization programs demonstrate that an incomes policy is an essential ingredient to non-recessionary stabilization. But they also show that demand restraint is inevitable if disinflation is to be viable. The 1964 program was gradualist and two-handed, relying on the supply side on wage repression. The 1986 plan was a heterodox shock treatment centered around an uncompromising price freeze and paying insufficient attention to the need for fiscal restraint.

Carlton, Dennis W.

PD March 1987. **TI** The Theory and the Facts of How Markets Clear: Is Industrial Organization Valuable for Understanding Macroeconomics? **AA** University of Chicago, Graduate School of Business. **SR** National Bureau of Economic Research Working Paper: 2178; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PR** $2.00. **JE** 611, 023. **KW** Industrial Organization. Price Behavior. Dynamic Oligopoly. Non-Price Rationing.

AB This paper examines what industrial organization economists know and don't know about how markets clear. It reviews the empirical evidence which shows that, at least for some industries, price behavior is peculiar with prices failing to adjust over long periods of time. The paper discusses several existing theoretical explanations for the peculiar behavior such as fixed cost to changing price information asymmetries and theories of dynamic oligopoly. The paper goes on to develop some new theories to explain the observed behavior. The new explanations rely heavily on the importance of a seller's knowledge of his customers and on the optimality of non-price rationing.

The paper discusses what relation, if anything, macroeconomics has to industrial organization.

Carter, R. A. L.

TI Unbiased Estimation of the MSE Matrix of Stein-Rule Estimators, Confidence Ellipsoid and Hypothesis Testing. **AU** Ullah, Aman; Srivastava, V. K.; Carter, R. A. L.; Srivastava, M. S.

Chow, Gregory C.

PD August 1986. **TI** Money and Price Level Determination in China. **AA** Department of Economics, Princeton University. **SR** Princeton Econometric Research Program Memorandum: 327; Department of Economics, Princeton University, Princeton, NJ 08544. **PG** 24. **PR** $2.00. **JE** 121, 052, 027, 131, 132, 134, 311. **KW** China. Inflation. Quantity Theory. Money Supply.

AB The quantity theory of money provides a useful starting point in explaining the price level in China. The ratio of money supply to real output is an important variable in explaining the price level, but the elasticity is below unity, suggesting that velocity is not constant. A short-run model for changes in the price level explains the Chinese annual data from 1952 to 1983 better than the United States data from 1922 to 1953. This model is stable after 1979 and forecasts well in 1984.

PD August 1986. **TI** Development of a More Market-Oriented Economy in China. **AA** Department of Economics, Princeton University. **SR** Princeton Econometric Research Program Memorandum: 326; Department of Economics, Princeton University, Princeton, NJ 08544. **PG** 18. **PR** $2.00. **JE** 124, 121, 220, 045, 052. **KW** China. Planned Economy. Market Economy. Economic Development. State-Owned Enterprises.

AB After describing the economic institutions for agriculture and industry in China before 1978, this paper points out the reasons for and the key elements of economic reform. It then discusses the major issues currently being deliberated by the leading economic reform officials regarding reform of the price system, the administrative structure of state-owned enterprises, the banking system and macroeconomic control mechanisms, and foreign trade and investment. Finally future prospects of the reform and of China's economic development will be indicated.

PD October 1986. **TI** Are Expectations Rational in Present Value Models? **AA** Department of Economics, Princeton University. **SR** Princeton Econometric Research Program Memorandum: 328; Department of Economics, Princeton University, Princeton, NJ 08544. **PG** 18. **PR** $2.00. **JE** 212, 023, 211. **KW** Rational Expectations. Adaptive Expectations. Present Value Models. Stock Prices. Dividends. Interest Rates.

AB The objective of this paper is threefold. First, it applies more elementary methods to estimating and testing present value models under rational expectations than those used in related recent studies, including for example the studies of Campbell and Shiller (1986) and West (1986). Comparison of the results obtained by the simpler methods presented here with those obtained by more sophisticated methods may be of interest. Second, it shows clear and strong evidence that the hypothesis of rational expectations should be rejected. In the last decade, the hypothesis of rational expectations has stimulated much interesting research in economics, although may economists remain skeptical of its empirical validity. Lovell (1986) provides a survey of some evidence bearing on this issue. The evidence presented here may convince some readers that the hypothesis of rational expectations should not be taken for granted in empirical research. Third, it demonstrates that the hypothesis of adaptive expectations explains the data much better than rational expectations. The data are concerned with the relations between the price of a portfolio of stocks and the expected future dividends derived from them, and between long-term and expected future short-term interest rates.

Christopeit, Norbert

PD May 1985. **TI** Option Pricing and Optimal Stopping Part I. **AA** University of Bonn. **SR** Universitat Bonn Sonderforschungsbereich 303 - Discussion Paper: B-41; Sonderforschungsbereich 303 an der Universitat Bonn, Adenauerallee 24-42, D-5300 Bonn 1, DEUTSCHLAND. **PG** 21. **PR** No Charge. **JE** 441, 213, 313, 026. **KW** Rational Option Pricing. Contingent Claims. Optimal Stopping. European Call Options. Semimartingale. Stochastic Integration.

AB This is the first part of a report whose intention it is to give a systematic treatment of the various approaches to a theory of rational option pricing. In this first part, only European call options are considered, and the problem of valuing them is treated within the framework of contingent claim pricing based on arbitrage considerations in continuous time securities market models. The intuitive idea behind this approach is the following. One tries to construct a portfolio in the basic securities that produces the same pattern of cashflow as the contingent claim and that, in addition, requires no funds to be invested nor allows for withdrawals (in the terminology to be introduced below: a self-financing trading strategy generating the contingent claim). Then, if arbitrage opportunities are excluded, there is a unique rational price for the contingent claim, namely the initial investment in the generating portfolio. Trading is assumed to be done continuously in a frictionless market. Since the economic background of this theory has been widely discussed in the literature, we have put more emphasis on the mathematical aspects than on economic interpretations. Our presentation uses standard results from semimartingale theory and stochastic integration. It differs from the approaches in the literature by the way in which admissible portfolios are specified. In the second part of this report, problems of optimal stopping arising from the consideration of American options will be treated in the spirit of McKean and Samuelson.

Chung, Alan

TI A Translog Model of Aggregate Production and Variable Factor Utilization. **AU** Fisher, Timothy C. G.; Chung, Alan; Helliwell, John F.

Clarida, Richard H.

TI The Dollar and Real Interest Rates. **AU** Campbell,

John Y.; Clarida, Richard H.

Clark, Peter K.

PD December 1986. **TI** Trend Reversion in Real Output and Unemployment. **AA** Graduate School of Business Stanford University. **SR** Stanford Graduate School of Business Research Paper: 940; Graduate School of Business, Stanford University, Stanford, CA 94305-2391. **PG** 36. **PR** No Charge. **JE** 131, 211, 212, 023. **KW** Unobserved Components. Trend Reversion. Business Cycles. Kalman Filter. Stationarity.

AB Quarterly data on aggregate real output and unemployment in the United States, Canada, The United Kingdom, France, West Germany, and Japan are decomposed into independent stationary and nonstationary components using the Kalman filter and maximum likelihood. In four of the six countries, a large, persistent stationary component is apparent, indicating a substantial amount of reversion to a smooth growth trend. For the United States, an expanded bivariate model indicates that independence of the two output components is a reasonable assumption.

Cleveland, William P.

PD February 1987. **TI** Calendar Adjustment of Time Series. **AA** Federal Reserve Board. **SR** Board of Governors of the Federal Reserve System Special Studies Section Discussion Paper: 198; Special Studies Section, c/o Frank Diebold Federal Reserve Board, Washington, DC 20551. **PG** 54. **PR** No Charge. **JE** 211, 212, 214. **KW** Time Series. Calendar Effects. Holiday. Adjustments. Computer Programs. Seasonality. ARIMA.

AB A brief outline of the use of time series methodology in conjunction with regression is given. Particular emphasis is placed on regression designs which relate to various forms of seasonality. Results in the areas of modeling and estimating stochastic seasonality are also presented. This serves as background for a series of descriptions of FORTRAN computer programs for time series analysis via ARIMA models and regression with ARIMA residuals. Some of the programs contain calendar routines for generating designs related to seasonal adjustment. The particular strength of these programs is in handling weekly series and in giving both time and frequency domain displays. FORTRAN source code is available from the Federal Reserve Board at a nominal charge.

Cohen, Daniel

PD October 1986. **TI** How Should Control Theory Be Used By a Time-Consistent Government? **AU** Cohen, Daniel; Michel, Philippe. **AA** Centre for Economic Policy Research. **SR** Centre for Economic Policy Research Discussion Paper: 141; Centre for Economic Policy Research, 6 Duke of York Street, London SW1Y 6LA, ENGLAND. **PG** 33. **PR** 1 pound ($2.00) individuals; 1.50 pounds ($3.00) companies, libraries, institutions. **JE** 023, 321, 311, 213. **KW** Control Theory. Time Consistency. Government Policy. Differential Games. Nash Equilibrium. Optimal Control.

AB It has been recognized that the optimal strategy of a government is generally time-inconsistent: optimality requires that the government take into account expectations effects in the formulation of its policy and to ignore these effects when applying the policy. In order to analyse the problem, we study different solutions to a simple one-dimensional linear quadratic game. The optimal but time-inconsistent solution appears to be paradoxical: in the long term, the government plays against its objective function, in order to induce the private sector to take early corrective measures. The time-consistent solution, by contrast, is defined as a solution to the Hamilton-Jacobi-Bellman equation, i.e. as a policy where the government has no precommitment capability. We demonstrate that this solution can be obtained by imposing the assumption that the government does not take into account the private sector's first order conditions but instead takes as given an equilibrium feedback rule. This solution is compared to a policy where the government has an "instantaneous" precommitment, to a Cournot-Nash equilibrium and to an optimal policy rule. In each case, we show how control theory should or should not be applied to calculate the equilibrium.

Cohen, Darrel

PD December 1986. **TI** The Size of the Public Sector and Long-run Growth: A Theoretical Exposition. **AA** Board of Governors of the Federal Reserve System. **SR** Board of Governors of the Federal Reserve System Economic Activity Section Working Paper: 67; Economic Activity Section, Board of Governors of the Federal Reserve System, Washington, D.C. 20551. **PG** 33. **PR** No Charge. **JE** 321, 322, 324, 323, 023. **KW** Government Size. Capital Intensity. Overlapping Generations. Balanced Budget. Aggregate Saving.

AB In this paper the long-run, aggregate effects of balanced-budget changes in a broad range of government spending and tax categories are analysed in the context of an overlapping generations model, in which life-cycle saving of individuals is conditional on exogenous government spending and tax parameters. In addition, production depends directly on certain types of government spending. Various policy combinations patterned after certain "stylized facts" -- i.e., major trends in government size over the past third of a century -- together imply a decline in aggregate saving and capital intensity. The results of other policy combinations are varied and suggest that no general conclusions about the long-run effects of changes in government size can be made. For example, one cannot conclude that in general a cut in taxes and spending will increase the economy's capital intensity, although it does appear that balanced-budget reductions in "wasteful" government outlays and in transfers to retirees (who are dis-savers) will likely -- but no necessarily -- increase capital intensity.

Corrado, Carol A.

PD September 1986. **TI** Reducing Uncertainty in Current Analysis and Projections: The Estimation of Monthly GNP. **AA** Board of Governors of the Federal Reserve System. **SR** Board of Governors of the Federal Reserve System Special Studies Section Discussion Paper: 209; C/O Francis X. Diebold, Mail Stop 180, Federal Reserve Board, Washington, DC 20551. **PG** 54. **PR** No Charge. **JE** 211, 212, 213, 221. **KW** GNP Estimates. Monthly Data Analysis. Signal Extraction.

Chow-Lin Interpolation.
AB This paper provides a set of monthly Gross National Product estimates that can form the basis of a systematic approach to the analysis of incoming monthly measurements on economic and financial activity. These estimates result from the application of econometric techniques for distributing a time series on the basis of movements in related series, where the specification of the distribution relationship is based upon the author's interpretation of actual procedures and data used by BEA in preparing published quarterly GNP estimates. These specifications are reviewed and the statistical properties of the estimated series are analysed.

PD February 1987. **TI** Reducing Uncertainty in Short-Term Projections: Linkage of Monthly and Quarterly Models. **AU** Corrado, Carol A.; Greene, Mark N. **AA** Board of Governors of the Federal Reserve System. **SR** Board of Governors of the Federal Reserve System Special Studies Section Discussion Paper: 207; C/O Francis X. Diebold, Mail Stop 180, Federal Reserve Board, Washington, DC 20551. **PG** 47. **PR** No Charge. **JE** 132. **KW** Macroeconometric Model. Truncated Data. Forecasting. Econometric Models. Kalman Filtering. Serial Correlation. Forecast Errors. Nonlinearity.
AB This paper shows how monthly data and forecasts can be used in a systematic way to improve the predictive accuracy of a quarterly macroeconometric model. Nonrecursive Kalman filtering is used to identify components of incoming monthly data that can be used to modify a quarterly model forecast. This transmission is accomplished through adjustment factors, which the procedure "automatically" constructs in a covariance-minimizing fashion to reflect the revised expectation of the quarterly model's forecast errors, conditional on the new monthly information set. The technique is extended to handle such pragmatic complications as model nonlinearity, truncated monthly information sets, and serially correlated forecast errors. Results obtained using Federal Reserve Board models indicate the potential for significant reduction in forecast error variance.

Courchane, M.

PD January 1986. **TI** Optimal Buffer Stock and Futures Market Policies for Commodity Price Stabilization. **AU** Courchane, Marsha; Nickerson, David. **AA** Department of Economics, Duke University. **SR** Duke Working Paper in Economics: 86-12; Working Papers Series, Department of Economics, Duke University, Durham, NC 27706. **PG** 43. **PR** No Charge. **JE** 313, 612, 611, 026. **KW** Commodity Futures. Market Failure. Uncertainty. Risk. Futures Contracts. Market Intervention.
AB Economic evaluations of policies of public intervention in private market exchange often proceed from a presumption that the allocation of resources provided by private markets is approximately competitive and so Pareto efficient. Public interference in such markets can be justified only if a significant "market failure" occurs. Observations of substantial volatility in the prices of primary commodities over time has often been cited as evidence that exchange in markets for such commodities is not Pareto efficient and that public redistributive policies can be designed so as to promote the stability of income to participants in these markets and improve their welfare. Both the efficiency of such policies and their welfare implications have been studied under a variety of assumptions regarding the preferences and technologies of market participants, the nature of stochastic disturbances to market equilibria, the role of information available to market participants, and the partial or general nature of the equilibrium in the model under study. A pervasive source of market failure in the exchange of most primary commodities is the absence of a complete set of markets for risk. When market participants engage in activities characterized by uncertainty, the optimality of market equilibria cannot be supported when the risk borne by each participant cannot be reallocated through private exchange. The existence and nature of public policies promoting income stability to market participants when risk cannot be reallocated through private exchange are the concern of this paper. Three types of policies are studied. First, a market in one-period futures contracts is established to allow market participants to stabilize their income by privately reallocating their risk. Second, a policy of direct intervention in the commodity market through operation of a commodity buffer stock is studied, when agents have no opportunity to engage in futures exchange. Third, a policy of indirect intervention in the commodity market through public speculation in the futures market is studied. The market environment within which such policies are studied is characterized by the following qualities: (1) equilibrium is restricted to a single market, (2) the commodity exchanged is durable, (3) three classes of competitive agents comprise the market: consumers, producers, and inventory-holding speculators, (4) producers and speculators operate under price uncertainty and exhibit a constant aversion to risk, (5) the activity of each class of agents is a source of stochastic disturbance to market equilibrium, (6) producers and speculators form rational expectations of the relevant moments of the commodity price distribution, and (7) policies of intervention in either the commodity or futures markets are conducted according to linear feedback rules based on the same amount of market information available to producers and speculators.

PD April 1986. **TI** Rational Expectations and Countercyclical Monetary Policy with Bisymmetric and Common Incomplete Information. **AU** Courchane, M. J.; Nickerson, David. **AA** Department of Economics, Duke University. **SR** Duke Working Paper in Economics: 86-15; Working Papers Series, Department of Economics, Duke University, Durham, NC 27706. **PG** 35. **PR** No Charge. **JE** 023, 311. **KW** Rational Expectations. Monetary Policy. Incomplete Information. Neutrality. Monetary Feedback.
AB The neutrality and optimality of countercyclical monetary policy are examined in a representative economy featuring competitive equilibria in multiple markets, a general monetary feedback rule and rational expectations based alternatively on bisymmetric information, a form of private information about current stochastic innovations in the economy, and on common incomplete information about such innovations. Four propositions about monetary policy are developed: (1) A necessary and sufficient condition for the neutrality of monetary feedback

with respect to deviations of market output under bisymmetric information from the natural rate of market output is stated in terms of restrictions on the parameters of the monetary feedback rule. (2) A necessary and sufficient condition for the neutrality of monetary feedback under common incomplete information is developed as a corollary, unifying and generalizing the examples of neutrality and non-neutrality in Barro (1976), Barro and Fischer (1976), Asako (1982), Waldo (1982) and Marini (1985). (3) A necessary and sufficient condition for the neutrality of monetary feedback with respect to the natural rate of output itself is stated in terms of an alternative set of restrictions on the parameters of the monetary feedback rule. (4) Optimal monetary policy is fully characterized in terms of another set of parameter restrictions and prospective monetary feedback is shown to completely stabilize deviations in market output by eliminating the influence of those current innovations agents cannot directly observe from the rational expectations formed by agents.

Crafts, Nick F. R.

PD December 1986. **TI** Long-Term Unemployment, Excess Demand and the Wage Equation in Britain, 1925-1939. **AA** School of Economic Studies, University of Leeds. **SR** Centre for Economic Policy Research Discussion Paper: 147; Centre for Economic Policy Research, 6 Duke of York Street, London SW1Y 6LA, ENGLAND. **PG** 17. **PR** 1 pound ($2.00) individuals; 1.50 pounds ($3.00) companies, libraries, institutions. **JE** 044, 122, 134, 824, 023. **KW** Unemployment. Wages. NAIRU. Wage Adjustment. UK.

AB The relationship between unemployment and the rate of change of money wages in interwar Britain is re-examined. It is argued that improved estimates of the wage equation can be obtained by taking account explicitly of factors which change the level of excess demand associated with the measured unemployment rate. In particular, the evidence suggests that long-term unemployment did not act as a restraint on the growth of money wages. New estimates of the wage equation imply that the NAIRU rose during the 1930s as the proportion of unemployment that was long term was higher than in the late 1920s.

Craine, Roger

PD August 1, 1986. **TI** Risky Business: The Allocation of Capital. **AA** Department of Economics, University of California at Berkeley. **SR** University of California at Berkeley Department of Economics Working Paper: 8606; Department of Economics, University of California at Berkeley, Berkeley, CA 94720. **PG** 27. **PR** $3.50. **JE** 023, 313, 026. **KW** Risk. Diversification. Investment.

AB This paper examines the effect of risk on the firm's demand for capital and the equilibrium allocation of capital. Capital is an asset the firm uses to transfer sales between periods and an asset society uses to transfer consumption between periods. The firm diversifies risk through the mix of factor inputs, and an increase in price risk can make capital a more valuable asset to the firm, increasing the firm's investment demand. Society diversifies risk across production technologies. In a simple general equilibrium model I show that an increase in exogenous risk causes a reallocation of capital among technologies, but does not increase aggregate investment.

Cremer, Jacques

PD February 1987. **TI** On Governing Multilateral Transactions with Bilateral Contracts. **AU** Cremer, Jacques; Riordan, Michael H. **AA** Cremer: Virginia Polytechnic Institute, State University. Riordan: Stanford University, Hoover Institution. **SR** Stanford Hoover Institute Working Paper in Economics: E-87-9; Domestic Studies Program Working Paper Series, Hoover Institution, Stanford University, Stanford, CA 94305. **PG** 51. **PR** No Charge. **JE** 026, 611, 511, 832. **KW** Contracts. Asymmetric Information. Multilateral Transactions. Customers. Suppliers. Public Goods. Risk Neutrality.

AB Bilateral contracts, while neither negotiated nor enforced in an integrated way, are nevertheless often interrelated both economically and strategically due to production or consumption complementaries and to asymmetric information. A set of bilateral contracts forms a mechanism with special properties. This mechanism forms a contract equilibrium if there is no joint incentive for a supplier and any individual customer to unilaterally alter the terms of their contract. If agents' preferences are risk-neutral in money income, and if their private information is independent, then there exists a contract equilibrium that implements efficient transactions. If, in addition, preferences are strictly concave and differentiable in goods and services, and technologically feasible sets are suitably convex, then this equilibrium is essentially unique.

Cressie, Noel

TI The VPRT: A Sequential Testing Procedure Dominating the SPRT. **AU** Morgan, Peter B.; Cressie, Noel.

PD July 1986. **TI** Improving Upon the Neyman-Pearson Approach to Testing Hypotheses. **AU** Cressie, Noel; Morgan, Peter B. **AA** Cressie: Department of Statistics, Iowa State University. Morgan: Department of Economics, University of Western Ontario. **SR** University of Western Ontario Centre for Decision Sciences and Econometrics Technical Report: 13; The Centre for Decision Sciences and Econometrics, Department of Economics, Social Sciences Center, University of Western Ontario, London, Ontario, CANADA N6A 5C2. **PG** 17. **PR** No Charge. **JE** 211. **KW** Cost Function. Decision Theory. Power. Sequential Test. Size. Hypothesis Test.

AB In this paper we place the Neyman-Pearson testing procedure into a decision theoretic context, where collecting observations incurs a given cost, and making right/wrong decisions yield various given payoffs. We show that in general the Neyman-Pearson test generally does not maximize the expected payoff net of costs, and we give the procedure which does. Furthermore, we connect this optimality notion with that of maximizing power subject to bounding the size.

Cukierman, Alex

PD November 1986. **TI** Uncertain Lifetimes and the Ricardian Equivalence Proposition. **AA** Department of

Economics, Tel-Aviv University. **SR** Tel Aviv Foerder Institute for Economic Research Working Paper: 45-86; Department of Economics, Tel Aviv University, Ramat Aviv 69978, Tel Aviv, ISRAEL. **PG** 24. **PR** No Charge. **JE** 023, 323, 026. **KW** Debt Neutrality. Neo-Ricardian Proposition. Uncertainty. Length of Life. Bequest Constraint.

AB This note shows that in the presence of uncertainty about health and the length of life, Barro's (1974) Neo-Ricardian Proposition does not hold. Given the present value of taxes, individuals prefer future to current taxes and a substitution of current taxes for debt has a positive effect on consumption. This result does not depend on individuals' attitudes towards risk. The mechanism that produces this result is the following; in some states of nature (long life during retirement and/or poor health) the typical individual is bequest constrained. In the other states he is not. Since he prefers debt to taxes in some states of nature and is indifferent between them in the other states his expected utility increases when debt is substituted for taxes as long as there is (even a tiny) positive probability that he will be bequest constrained.

Dasgupta, Partha

TI Project Appraisal and Foreign Exchange Constraints: A Simple Exposition. **AU** Blitzer, Charles R.; Dasgupta, Partha; Stiglitz, Joseph E.

Davidson, Carl

PD December 1986. **TI** The Structure of Simple General Equilibrium Models with Frictional Unemployment. **AU** Davidson, Carl; Martin, Lawrence; Matusz, Steven. **AA** Department of Economics, Michigan State University. **SR** Michigan State Econometrics and Economic Theory Workshop Paper: 8604; Department of Economics, Michigan State University, East Lansing, MI 48824. **PG** 50. **PR** No Charge. **JE** 021, 022, 023, 821, 026. **KW** General Equilibrium. Frictional Unemployment. Search. Natural Rate of Unemployment. Minimum Wage.

AB In this paper we present and analyze a simple two sector general equilibrium model that allows for an endogenously determined natural rate of unemployment. This unemployment arises due to trading frictions in the labor market in one sector. Externalities inherent in the search process lead to an equilibrium that is inefficient and we demonstrate that this has important implications for the basic structure of the economy. In particular, we show that the externalities lead to a relationship between factor rewards and commodity prices that is fundamentally different from the relationship at work in a frictionless economy. One implication of this result is that the economy's relative supply curve may be downward sloping, especially when the search sector is small. The usefulness of the model is demonstrated in the last section where we examine the incidence of taxes, the effects of protection, and the impact of minimum wage laws in the presence of search generated unemployment.

Davidson, James

PD October 1986. **TI** Cointegration in Linear Dynamic Systems. **AA** London School of Economics. **SR** London School of Economics Suntory Toyota International Centre for Economics and Related Disciplines Working Paper: 86/144; Suntory-Toyota International Centre for Economics and Related Disciplines London School of Economics, 10 Portugal Street, London, WC2A 2HD, ENGLAND. **PG** 46. **PR** No Charge. **JE** 211, 213. **KW** Cointegration. Dynamic Systems. Integration. Vector Autoregression. Unit Roots. Error Correction Model.

AB If a vector autoregressive process contains roots of unity, the random sequences it generates are integrated, in the sense of being nonstationary while having some order of difference stationary. If stationary linear combinations of these elements exist, the process is said to be cointegrated, and the issue addressed in this paper is the nature of parameter restrictions which lead to cointegration in a system with arbitrary orders of integration. Necessary and sufficient conditions are expressed in terms of the parameters of the so-called error correction representation of the system. These conditions are interpreted for the familiar case of the conditional sub-process of a block-recursive system where the marginal process is unknown. The approach both allows a new analysis of the familiar characteristics of a stable system, and throws light on the behaviour of unstable systems. The latter can be distinguished as having either insufficient or inconsistent targets (long-run solutions), types of model with different behavioural implications and different dynamic properties.

Davis, John

PD December 1986. **TI** Germany and the European Disease. **AU** Davis, John; Minford, Patrick. **AA** University of Liverpool. **SR** Board of Governors of the Federal Reserve System International Finance Discussion Paper: 296; International Finance Division Board of Governors of the Federal Reserve System, Washington, D.C. 20551. **PG** 40. **PR** No Charge. **JE** 133, 122, 824, 131. **KW** Unemployment. Business Cycles. Germany. Low Growth. Wage Rigidity. Macroeconomic Model. British Disease.

AB This paper is concerned with the growth of unemployment in Europe in the late 70s and early 80s. Unemployment has risen to double digit rates in many countries, rates which are not considered likely to fall much in the rest of the 80s. A theory - 'the disease' - is expounded, with empirical evidence from the Federal Republic of Germany. The disease is characterised by high unemployment and low output growth, these being systematic rather than the consequence of some temporary phenomenon such as the downphase of the business cycle. Consequently we present a 'natural rate' explanation as an underlying determinant of unemployment with consideration given to the role of the business cycle in recent German unemployment. The latter role is examined with the use of a full macroeconomic model of the Federal Republic. The model is new-classical with two of its most distinguishing features being the assumption of rational expectations throughout and the endogenous determination of natural rates. We find that the natural rate of unemployment in Germany more than trebled its 1973 level by the end of the 70s, reaching 1.21 million by 1982 before falling to 1.16 million in 1983. We suggest that Germany may have caught the now familiar 'British

disease' - that is, the prevention of real wage adjustment via unemployment benefits and social aid.

Deaton, Angus S.

PD January 1987. **TI** Is Consumption Too Smooth? **AU** Deaton, Angus S.; Campbell, John. **AA** Woodrow Wilson School and National Bureau of Economic Research, Princeton University. **SR** Princeton Woodrow Wilson School Discussion Paper in Economics: 122; Woodrow Wilson School, Princeton University, Princeton, NJ 08544. **PG** 36. **PR** No Charge. **JE** 132, 212, 131, 023. **KW** Permanent Income Theory. Volatility. Unit Roots. Consumption. ARMA.

AB For thirty years, it has been accepted that consumption is smooth because permanent income is smoother than measured income. This paper considers the evidence for the contrary position, that permanent income is in fact less smooth than measured income, so that the smoothness of consumption cannot be straightforwardly explained by permanent income theory. Quarterly first differences of labor income in the United States are well described by an AR(1) with a positive autoregressive parameter. Innovations to such a process are "more than permanent;" there is no deterministic trend to which the series must eventually return, and good or bad fortune in one period can be expected to be at least partially repeated in the next. Changes to permanent income should therefore be greater than the innovations to measured income, and changes in consumption should be more variable than innovations to measured income. In fact, changes in consumption are much less variable than are income innovations. We consider two possible explanations for this paradox, first, that innovations to labor income are in reality much less persistent than appears from an AR(1), and second, that consumers have more information than do econometricians, so that only a fraction of the estimated innovations are actually unexpected by consumers. The univariate time series results are less than decisive, but the balance of the evidence, whether from fitting ARMA models or from examining the spectral density, is more favorable to the view that innovations are persistent than to the opposite view, that there is slow reversion to trend. The information question is taken up within a bivariate model of income and savings that can accommodate the feedback from saving to income that is predicted by the permanent income theory if consumers have superior information. Nevertheless, our results are the same; changes in consumption are typically smaller than those warranted by the change in permanent income. We show that our finding of "excess smoothness" is consistent with the earlier findings of "excess sensitivity" of consumption to income. Our analysis is conducted within a "logarithmic" version of the permanent income hypothesis, a formulation that recognizes that rates of growth of income and saving ratios have greater claim to stationarity than do changes in income and saving flows.

TI Is Consumption too Smooth? **AU** Campbell, John; Deaton, Angus.

Deaves, Richard

PD January 1987. **TI** The Response of Interest Rates to the Federal Reserve's Weekly Money Announcements: The "Puzzle" of Anticipated Money. **AU** Deaves, Richard; Melino, Angelo; Pesando, James E. **AA** Institute for Policy Analysis, University of Toronto. **SR** National Bureau of Economic Research Working Paper: 2125; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PR** $2.00. **JE** 313, 311. **KW** Interest Rate. Federal Reserve. Money Announcements. Anticipated Money. Market Yield.

AB Researchers, using the survey conducted by Money Market Services, Inc., have found that the anticipated component in the Federal Reserve's weekly money supply announcement is negatively correlated with the post-announcement change in market yields. We prove that eliminating a (downward) bias in the measure of anticipated money can, in theory, eliminate this puzzle, but that improving the efficiency of an already unbiased measure cannot. We find, using Canadian as well as United States interest rate data, that correcting the downward bias in the survey measure reduces, but does not eliminate, the role of anticipated money.

Deneckere, Raymond J.

TI Reputation in Bargaining and Durable Goods Monopoly. **AU** Ausubel, Lawrence M.; Deneckere, Raymond J.

Dickens, William T.

TI Neoclassical and Sociological Perspectives on Segmented Labor Markets. **AU** Lang, Kevin; Dickens, William T.

Diebold, Francis X.

PD August 1986. **TI** Structural Change and the Combination of Forecasts. **AU** Diebold, Francis X.; Pauly, Peter. **AA** Board of Governors of the Federal Reserve System. **SR** Board of Governors of the Federal Reserve System Special Studies Section Discussion Paper: 201; C/O Francis X. Diebold, Mail Stop 180, Federal Reserve Board, Washington, DC 20551. **PG** 50. **PR** No Charge. **JE** 211, 132, 212. **KW** Prediction. Time-Varying Parameters. Pooling. TVC. Time Varying Coefficients.

AB We explore various time-varying coefficient models for use in the combination of forecasts, to account for differential effects of structural change. A number of deterministic and stochastic TVC models are proposed, in addition to weighted regression-based approaches. It is shown that all existing variance-covariance methods of accounting for structural change in forecast combination emerge as special cases of the weighted TVC approach.

PD August 1986. **TI** Temporal Aggregation of ARCH Processes and the Distribution of Asset Returns. **AA** Board of Governors of the Federal Reserve System. **SR** Board of Governors of the Federal Reserve System Special Studies Section Discussion Paper: 200; C/O Francis X. Diebold, Mail Stop 180, Federal Reserve Board, Washington, DC 20551. **PG** 20. **PR** No Charge. **JE** 211, 313. **KW** ARCH. GARCH. Heteroskedasticity. Asset Returns.

AB Limiting unconditional normality of temporal aggregates of ARCH and GARCH processes is established using central limit theorems for dependent, identically

distributed observations. This property matches observed data on financial asset return distributions and cannot be explained by stable Paretian models. The results do not require existence of unconditional fourth moment.

PD November 1986. **TI** The Dynamics of Exchange Rate Volatility: A Multivariate Latent Factor ARCH Model. **AU** Diebold, Francis X.; Nerlove, Marc L. **AA** Board of Governors of the Federal Reserve System. **SR** Board of Governors of the Federal Reserve System Special Studies Section Discussion Paper: 205; Special Studies Section, C/O Frank Diebold, Federal Reserve Board, Mail Stop 180, Washington, DC 20551. **PG** 55. **PR** No Charge. **JE** 211, 212, 431. **KW** Efficiency. Heteroskedasticity. Time-Series. Kalman Filter. Exchange Rate. Volatility. ARCH. GARCH. MIMIC. Common Factors. State Space.

AB GARCH processes (Engle and Bollerslev, 1986) are proving to be a very useful class of heteroskedastic nonlinear time-series, particularly in economics. Successful multivariate GARCH modeling has proved elusive, however, due to the huge number of parameters which must be estimated. In this paper we develop a multiple-indicator, multiple-cause (MIMIC) model in which the common factor(s) (and possibly the unique factors) may display GARCH. The rich (and testable) conditional variance-covariance structure of the observed variables arises from their joint dependence on a common factor; this leads to commonality in temporal volatility movements across variables which is frequently observed in economics. In addition, the factor structure leads to a very parsimonious parameterization. The model is cast in statespace form, leading to convenient estimation via the Schweppe decomposition and Kalman filter. The power of the approach is illustrated through detailed study of a 7-variate high-frequency exchange rate system.

PD March 1987. **TI** Scoring the Leading Indicators. **AU** Diebold, Francis X.; Rudebusch, Glenn D. **AA** Board of Governors of the Federal Reserve System. **SR** Board of Governors of the Federal Reserve System Special Studies Section Discussion Paper: 206; C/O Francis X. Diebold, Mail Stop 180, Federal Reserve Board, Washington, DC 20551. **PG** 40. **PR** No Charge. **JE** 211, 212, 131, 132. **KW** Composite Leading Index. Prediction. Turning Points. Business Cycle. Nonlinear Time-Series. Leading Indicators.

AB This paper evaluates the usefulness of the leading indicators in the prediction of cyclical turning points. Formal probability assessment scoring rules are applied to turning point probabilities generated from the composite index of leading indicators. These scoring rules enable rigorous and systematic evaluation of leading indicator probability forecasts with respect to accuracy, calibration, sharpness, resolution and skill. The evaluation of predictive performance is also differentiated by the stage of the business cycle.

Dierker, Hildegard

PD January 1986. **TI** Existence of Nash Equilibrium in Pure Strategies in an Oligopoly with Price Setting Firms. **AA** University of Bonn. **SR** Universitat Bonn Sonderforschungsbereich 303 - Discussion Paper: A-37; Sonderforschungsbereich 303 an der Universitat Bonn, Adenauerallе 24-42, D-5300 Bonn 1, DEUTSCHLAND. **PG** 30. **PR** No Charge. **JE** 611, 026. **KW** Oligopoly. Differentiated Products. Nash Equilibrium. Price-Setting Firms.

AB Consider an oligopoly model with differentiated products and with a fixed, finite number of price setting firms. We assume that cost functions are convex and demand is derived from a consumption sector with a continuum of consumers. We study existence of Nash equilibrium in pure strategies by imposing assumptions on the distribution of consumers' wealth and tastes rather than postulating a concave profit function. We employ a result of W. Hildenbrand's saying that demand for a commodity is a decreasing function, if the wealth distributions has a falling density. The necessary second order conditions on aggregate demand are derived from assumptions on the distribution of consumers' tastes which imply that preferences are price-dispersed.

Diewert, W. E.

PD August 1986. **TI** Microeconomic Approaches To The Theory Of International Comparisons. **AA** Department of Economics, University of British Columbia. **SR** University of British Columbia Department of Economics Discussion Paper: 86-31; Department of Economics, University of British Columbia 997 - 1873 East Mall, Vancouver, B.C. CANADA V6T 1Y2. **PG** 40. **PR** $0.20 per page Canadian to other than educational institutions. **JE** 022, 220, 123. **KW** Comparative Economics. Multinational Comparisons. Price Indexes. Multilateral Indexes. Output Indexes. Purchasing Power Indexes.

AB For many purposes, it is useful to compare the real outputs or real incomes of a number of countries or regions at a single point in time. This information may be required to allocate international aid or interregional transfer payments between member countries or regions. In this paper, we consider several approaches to the problem of providing international or interregional comparisons. These approaches are based on microeconomic theory.

Djajic, Slobodan

PD October 1986. **TI** Dynamics of the Exchange Rate in Anticipation of Pegging. **AA** Columbia University and Queen's University. **SR** Queen's Institute for Economic Research Discussion Paper: 679; Department of Economics, Queen's University, Kingston, Ontario, CANADA K7L 3N6. **PG** 26. **PR** $3.00 Canada and United States; $3.50 Foreign. **JE** 431, 432. **KW** Regime Switching. Speculative Attack. Exchange Rate. Pegging. Floating Exchange Rate.

AB This paper studies an economy in which agents expect the current floating-rate regime to be interrupted on a specific future date by a transitional fixed-rate policy. When the new peg is not revealed in advance, the path of the floating rate in anticipation of pegging is determined by the interaction between what agents perceive to be the objectives and the constraints of the central bank. In examining this path, the paper highlights the role of the pegging date, the duration of the fixed-rate interval, the quantity of reserves available to the authorities, and the nature of policies implemented after pegging is terminated.

PD November 1986. **TI** Current-Account Effects of a Temporary Change in Government Expenditure. **AA** Columbia University and Queen's University. **SR** Queen's Institute for Economic Research Discussion Paper: 677; Department of Economics, Queen's University, Kingston, Ontario, CANADA K7L 3N6. **PG** 27. **PR** $3.00 Canada and United States; $3.50 Foreign. **JE** 431, 321. **KW** Government Spending. Current Account. Intertemporal Model. Perfect Foresight. Public Goods.

AB This paper employs a perfect-foresight model of intertemporal utility maximization in analysing the current-account effects of a temporary increase in government spending. The relationship between the marginal utility of private consumption and the supply of public goods in the economy is shown to play a crucial role in determining the qualitative nature of the optimal current-account response. The link between the timing of the policy change and the magnitude of the current-account effect is also examined.

Dobrinsky, Rumen

TI Economic Structural Change and Long-Term-Fluctuations in Economic Growth. **AU** Krelle, W.; Dobrinsky, R.; Gajda, J.; Ross, H.; Szekely, I.; Welsch, H.

PD August 1986. **TI** Bonn-IIASA Research Project on Economic Growth and Structural Change: The Macroeconomic Data Base for CMEA Countries. **AA** University of Bonn. **SR** Universitat Bonn Sonderforschungsbereich 303 - Discussion Paper: B-60; Sonderforschungsbereich 303 an der Universitat Bonn, Adenauerallee 24-42, D-5300 Bonn 1, DEUTSCHLAND. **PG** 60. **PR** No Charge. **JE** 132, 220, 111, 124. **KW** Economic Growth. Structural Change. Database. World Model. CMEA.

AB The macroeconomic data base for the CMEA countries (later referred to as MDB) has been developed as a part of the research carried out within the Bonn-IIASA Project on Economic Growth and Structural Change. The contents and scope of the data base are defined in accordance with the general research strategy of the Project (Krelle, 1985, 1986). MDB covers the seven European CMEA countries): Bulgaria, Czechoslovakia, German Democratic Republic, Hungary, Poland, Romania and Union of Soviet Socialist Republics. The time span of MDB is 1960-1982 and all data items included in it are presented in the form of time series for this period. All primary data sources used are official statistical publications either of the countries under consideration or of international organisations such as the CMEA and United Nations. However, the extraction of the primary data would have been impossible without the valuable contributions of a large number of scientists and statisticians from the national groups and international agencies collaborating with the Bonn-IIASA Project, who submitted to the Central Group a considerable portion of the primary data needed. Such contributions to the project were made by collaborating groups in Bulgaria, Czechoslovakia, GDR, Hungary, Poland, Union of Soviet Socialist Republics and the Economic Commission for Europe of the United Nations in Geneva. Due to the different statistical practices in the countries the available primary data were not always of the same type and form. In many cases additional processing was necessary in order to bring them to a uniform shape which was required by the goals of the project. In a few cases there were, however, some blanks in the primary data (most often missing observations for certain years). Since one of our aims was to have complete time series for all variables for the period 1960-1982, these blank points were filled by applying inter- and extrapolation techniques. This paper presents the basic set of indicators of the macroeconomic data base of the CMEA countries. The primary data sources for the different indicators are quoted and the methods for additional processing are described, whenever such have been applied. The full contents of MDB are not presented in detail since all the remaining indicators are calculated from the basic set of indicators. The computerised version of the data base is installed at the Computer Centre of Bonn University and is available upon request from the Central Group of the Bonn-IIASA Research Project on Economic Growth and Structural Change.

PD November 1986. **TI** Economic Growth and Structural Change in the CMEA Countries. **AA** University of Bonn. **SR** Universitat Bonn Sonderforschungsbereich 303 - Discussion Paper: B-59; Sonderforschungsbereich 303 an der Universitat Bonn, Adenauerallee 24-42, D-5300 Bonn 1, DEUTSCHLAND. **PG** 33. **PR** No Charge. **JE** 132, 124, 111. **KW** Economic Growth. Structural Change. World Model. CMEA.

AB One part of the Bonn-IIASA Research Project is devoted to the analysis and forecast of economic growth and structural change in the seven European CMEA countries: Bulgaria, CSSR, GDR, Hungary, Poland, Romania and Union Soviet Socialist Republics. 1) Some of the main results of this study are reported in this paper, concentrating on the factual aspects of the analysis and forecast. The specific methodological aspects of the approach applied with respect to the CMEA countries are described in more detail in a separate paper (Dobrinsky, 1986 b). The basic framework of the study follows the general approach of the Bonn-IIASA project which stems from neoclassical growth theory (Krelle, 1985). However, the approach to the CMEA countries differs in some important details which are due to the different behavior of economic agents in a socialist economy as compared to a market economy. Another cause of difference is the different accounting system in the CMEA countries whose statistics are based on the System of Material Product Balance (MPS). Since the CMEA country models were also constructed in accordance with the MPS, there are differences in the macroeconomic indicators used for the analysis and forecast of CMEA countries as compared to the market type economies. The actual data base for the CMEA countries which was used in the project was compiled on the basis of valuable contributions from many collaborating groups. This data base is described in more detail in Dobrinsky (1986 a). Perhaps several comments should be added here to clarify our attitude with respect to the results reported in this paper and, especially, the forecasts. Although this paper is focused on the numerical results of our studies, to our judgement, it is not the figures per se which should be taken at face value as the main outcome of this research. In spite of all our efforts to

work out the development scenarios according to some general principles, it is inevitable that there could be some subjective bias in them. To our mind, what is more important as an outcome from this exercise is the understanding of economic growth and structural change as a medium- and long-term development, the effort to reveal and focus on the factors with long-term effect and eliminate those which only lead to short-run fluctuations. This analytical concept has been "materialised" in the macroeconomic models as the main tools for long-term analysis of economic growth and structural change. The models produce forecasts only in combination with the expert knowledge of the analyst working with them, and the result is a conditional forecast of the future which depends on the vision on the driving forces of long-term development, as introduced by the analyst. This is how we suggest to interpret the three forecast scenarios which are discussed later in the paper. We rather try to illustrate by them the potential of the models as analytical tools than to pretend for strong predicting power. The preference which sometimes may accompany some results is also based on personal judgement and personal understanding of the economic performance. As pointed out, the three forecast scenarios reflect three visions of the future economic growth of the CMEA countries. The actual design of the scenarios is described further on, we shall only mention here that scenario "A" (the "high" or "optimistic" scenario) corresponds to a strategy of "accelerated" growth. Scenario "C" (the "low" or "pessimistic" scenario) reflects an "inertive" type of development, which is a kind of warning signal of the eventual consequences in case of continuation of some unfavorable tendencies. Scenario "B" (the "medium" scenario) is a "middle-of-the-road" development between "A" and "C".

Dolado, Juan J.

PD January 1987. **TI** Intertemporal Employment and Pricing Decisions Rules in U.K. Manufacturing. **AA** Institute of Economics and Statistics and Nuffield College, University of Oxford. **SR** Oxford Applied Economics Discussion Paper: 18; Institute of Economics and Statistics, Saint Cross Building, Manor Road, Oxford OX1 3UL, ENGLAND. **PG** 56. **PR** No Charge. **JE** 131, 211, 611, 821. **KW** Euler Equations. Cointegration. Employment. Price Determination. Integration. Intertemporal Model.

AB This paper provides a formal intertemporal theory of employment and price determination in an industry formed by identical price-setting firms which face convex costs in adjusting both employment and prices. Having shown that both types of costs are empirically important, the deep parameters governing the joint decision rule are estimated. As a byproduct of the analysis, the integration and cointegration properties of the time series involved in the estimation of this type of problem, are also discussed. The properties shed some light on the likelihood of getting interpretable results from the corresponding estimated Euler equations which characterize the intertemporal rules.

Dominquez, Kathryn D.

TI Forecasting the Depression; Harvard Versus Yale. **AU** Fair, Ray C.; Shapiro, Matthew D.; Dominquez, Kathryn D.

Domowitz, Ian

PD December 1986. **TI** Market Structure and Cyclical Fluctuations in U.S. Manufacturing. **AU** Domowitz, Ian; Hubbard, R. Glenn; Peterson, Bruce C. **AA** Department of Economics, Northwestern University. **SR** National Bureau of Economic Research Working Paper: 2115; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PR** $2.00. **JE** 131, 611, 631. **KW** Market Structure. Manufacturing. Imperfect Competition. Markup.

AB The relevance of imperfect competition for models of aggregate economic fluctuations has received increased attention from researchers in both macroeconomics and industrial organization. Measuring properly the size of industry markups of price over marginal cost is important both for assessing the role of market structure and for determining the extent to which excess capacity is a significant feature accompanying imperfect competition in American industry. Using a panel data set on four-digit Census manufacturing industries, this paper expands recent work by Robert Hall on the importance of market structure for understanding cyclical fluctuations. We outline a methodology for estimating industry markups of price over cost and the influence of market structure on cyclical movements in total factor productivity. While we find evidence to support the proposition that price exceeds marginal cost in United States manufacturing, our results offer only limited support for the notion that markups are importantly related to differences in industry concentration, though the effect of unionization is important. Concentration effects are important only in industries producing durable goods or differentiated consumer goods. In addition, much of the estimated markup of price over marginal cost is accounted for by fixed costs related to overhead labor, advertising, and central office expenses; we do not find compelling evidence of substantial evidence of excess capacity in most industries.

Dornbusch, Rudiger

PD January 1987. **TI** Our LDC Debts. **AA** Massachusetts Institute of Technology. **SR** National Bureau of Economic Research Working Paper: 2138; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PR** $2.00. **JE** 433, 443, 421, 431, 312. **KW** LDC. Debt. Banking System. Trade Balance. World Debt Problem.

AB The United States has significant interests involved in the world debt problem. It affects the profitability and even the stability of our banking system, but the debt problem also matters because debt service requires trade surpluses for debtors. Debtor countries have made their goods extra competitive are selling in our market and are competing with our exports. The debt problem is therefore a part, though perhaps a small part, of the United States trade crisis. Finally we have a major foreign policy stake in the debt crisis in that debt collection brings about social and political instability. The paper sets out debt facts, followed with a brief look at the origins of the debt problem. The "transfer problem" is the general framework

in which we discuss the problem of debt service for the debtor countries. We then discuss bank exposure and the quality of debts. The paper then addresses the trade implications of debt service and concludes with an overview of alternative proposals for solving the debt problem.

PD February 1987. **TI** Inflation Stabilization with Incomes Policy Support: A Review of the Experience in Argentina, Brazil and Israel. **AU** Dornbusch, Rudiger; Simonsen, Mario Henrique. **AA** Dornbusch: Massachusetts Institute of Technology and National Bureau of Economic Research, Cambridge. Simonsen: EPGE Fundacao Getulio Vargas. **SR** National Bureau of Economic Research Working Paper: 2153; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PR** $2.00. **JE** 121, 130, 311, 321. **KW** Stabilization Policy. Incomes Policy. Argentina. Brazil. Israel. Inflation. Exchange Rate. Wage-Price Controls. Money Supply. Monetary Reform. Budget Deficits.

AB In 1985-86 Argentina, Brazil and Israel initiated programs of stabilization after episodes of high and sharply accelerating inflation. Among the key features of each stabilization program were the use of wage-price controls, a fixed exchange rate and fiscal correction as well as a significant expansion in the nominal quantity of money. The combination of fiscal correction and incomes policy has come to be known as "heterodox" stabilization policy, thus opposing it to the conventional International Monetary Fund programs which emphasize tight monetary and fiscal policies as the exclusive instrument of stabilization. The stabilization programs in Argentina and Israel have now been in force for over a year and the more recent one in Brazil for half a year. There is accordingly enough evidence to make a first judgment on the success and the limitations of these new schemes. At the same time it is worthwhile spelling out some of the special features of stabilization and the resulting intellectual case for heterodox programs. The paper focuses on the conceptual issues related to the use of incomes policy in the context of stabilization when inertia is a central feature. The analysis includes the relation between deficits and inflation, inertial inflation and the basics of monetary reform. We also review the actual stabilization experience in Argentina, Brazil and Israel. The paper concludes with a discussion of the political dimension of stabilization, showing the extraordinary political popularity of the new programs.

TI Brazil's Tropical Plan. **AU** Cardoso, Eliana A.; Dornbusch, Rudiger.

Downs, Thomas

PD December 1986. **TI** Tax Policy and Stock Prices. **AU** Downs, Thomas; Hendershott, Patric H. **AA** Downs: School of Management, Boston College. Hendershott: The Ohio State University. **SR** National Bureau of Economic Research Working Paper: 2094; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PR** $2.00. **JE** 323, 313, 521, 522. **KW** Tax Policy. Stock Prices. Windfall Profits. Tax Reform.

AB Windfall profits and losses accrue to investors only when expected after-tax returns or discount rates change, and major tax policy shifts are likely to alter these variables. This study introduces a cashflow valuation model for estimating the windfalls to owners of United States nonfinancial corporations caused by the enactment of tax changes. The model is illustrated by analysis of two reform packages, the Treasury Proposal of November 1984 and the Tax Reform Act of 1986. We find that the original Treasury plan would have boosted stock prices by 20 to 30 percent; an increase of 10 to 12 percent is computed for the Tax Reform Act of 1986. This anomalous result -- a $125 to $140 billion dollar corporate tax increase (over five years) raising stock prices -- occurs because the tax increase is on new capital, not old capital. The stock market largely values expected returns on the existing capital stock, and these returns benefit from the adverse treatment of new investment.

Dubin, Jeffrey A.

PD March 1987. **TI** How Markets for Impure Public Goods Organize: The Case of Household Refuse Collection. **AU** Dubin, Jeffrey A.; Navarro, Peter. **AA** Dubin: California Institute of Technology. Navarro: University of San Diego. **SR** Caltech Social Science Working Paper: 633; Division of Humanities and Social Sciences, 228-77, California Institute of Technology, Pasadena, CA 91125. **PG** 29. **PR** No Charge. **JE** 611, 324, 211, 941, 931. **KW** Refuse Collection. Market Organization. Economies of Density. Ideology. Impure Public Goods. Interest Groups. Community Preference.

AB This paper examines how markets for impure public goods organize within the context of household refuse collection. We demonstrate that observed public choices of apparently inefficient forms of market organization embody rational behavior where both rent-seeking interest groups and community preferences influence policy choices. The assessment of the relative efficiency of these choices is placed in a dynamic framework where initial market organization choice is allowed to influence eventual cost. The joint estimation of organizational choice and the cost of refuse collection shows that significant economies of density do exist. Our approach permits the separation of economic and political factors and allows us to calculate the additional cost of collection associated with communities ideological preferences.

Dumenil, Gerard

PD September 1986. **TI** Labor Values and the Imputation of Labor Contents. **AU** Dumenil, Gerard; Levy, Dominique. **AA** Dumenil: OFCE. Levy: CEPREMAP. **SR** CEPREMAP Discussion Paper: 8620; CEPREMAP, 142 rue du Chevaleret, 75013 Paris, FRANCE. **PG** 23. **PR** $20.00 FF. **JE** 022, 821, 825. **KW** Theory of Value. Joint production. Market Value. Labor Value. Disaggregation. Nonreductivity.

AB In a recent article (Econometrica 1983), Peter Flaschel presented a formalization of empirical procedures for the calculation of labor values in joint production. These procedures were based on a disaggregation of production processes. The concept of "market value" (average value) was then used to determine values on the basis of the single technology which resulted from the disaggregation. The purpose of the present article is

twofold. In the first part, the formalism of market value is directly applied to the case of joint production, and the conditions for the existence of positive solutions are discussed. We demonstrate that these conditions are quite general, and are not related to conditions concerning the existence of any equilibrium. In this analysis, we substitute the concept of "nonreductivity" for the traditional notion of productivity of the technology. The second part of the article considers problems involved in procedures of disaggregation. We first examine their general properties. A new procedure is suggested as an alternative to Flaschel's, which possesses advantages for a number of empirical applications. Lastly, we propose a generalization of the traditional notion of values, using disaggregation, which solves the problem of negativity.

Dutta, Jayasri

PD July 1986. **TI** Testing for Heterogeneous Parameters in a Least Squares Framework. **AU** Dutta, Jayasri; Leon, Hyginus Lambert. **AA** Dutta: Department of Economics, Barnard College, Columbia University. Leon: Eliot College, University of Kent, Canterbury, United Kingdom. **SR** Columbia First Boston Series in Money, Economics and Finance Working Paper: FB-86-32; First Boston Series, Graduate School of Business, Columbia University, New York, NY 10027. **PG** 49. **PR** $5.00 academics and non-profit institutions; $6.00 corporations (add $1.00 outside United States, Canada and Puerto Rico). **JE** 211. **KW** Testing. Parameter Stability. Heterogeneity. Stationarity. Least Squares Approximations.

AB This paper suggests tests of alternative hypotheses about the heterogeneity of parameters in a least squares approximation. These hypotheses refer to weaker notions of stationary behavior -- or homogeneity -- in the parameters. We suggest three types of weak homogeneity: mean stationarity, predictability, and intrinsic homogeneity, which is the property of the parameters being independently and identically distributed.

Ebert, Udo

PD July 1986. **TI** On the Evaluation of Tax Systems. **AA** University of Bonn. **SR** Universitat Bonn Sonderforschungsbereich 303 - Discussion Paper: A-67; Sonderforschungsbereich 303 an der Universitat Bonn, Adenauerallee 24-42, D-5300 Bonn 1, DEUTSCHLAND. **PG** 27. **PR** No Charge. **JE** 323, 321, 024. **KW** Social Welfare Function. Tax Burden. Deadweight Loss.

AB This paper is concerned with the excess burden from taxation. A simple definition of this concept is given by Auerbach in his recent survey: 'The deadweight loss from a tax system is that amount that is lost in excess of what government collects.' (Auerbach (1986), p. 67). At the same time he states 'Unfortunately, while this definition makes intuitive sense, it is too vague to permit a single interpretation' (emphasis added). Therefore there are many different definitions of excess burden in the literature (e.g. Mohring (1971), Diamond/McFadden (1974), Kay (1980), Pazner/Sadka (1980), Zabalza (1982)). But a more careful investigation shows that essentially one can find only two types of measures. One measure is based on the Hicksian compensating variation, the other one on the equivalent variation. Diamond and McFadden define the excess burden as the 'loss or excess of income we must give a consumer to restore him to his pretax indifference curve over the tax revenue collected from him' (Diamond/McFadden (1974), p. 11). This definition is based on the pretax situation and leads to a formula which uses the compensating variation. It is proposed by Zabalza (1982) as well. On the other hand Kay's excess burden gives an 'answer to the question how much more would the taxed consumer be willing to pay in a lump sum rather than as commodity taxes?' (Kay (1980), p. 115). The suggestion lays emphasis on the post-tax situation and implicitly employs the equivalent variation. This proposal can also be found in Mohring (1970), Pazner/Sadka (1980), and Zabalza (1982). In all these papers the concept of excess burden is mostly treated verbally, by means of formal expressions, and/or by means of diagrams. Thus it is not easy to see which properties the excess burden possesses. It is the aim of this paper to derive measures of excess burden by a simple axiomatic approach. The investigation is based on the fact that we are not interested in the entire welfare change of the consumer but rather in the change in excess of revenue collected. Thus in a first step we have to evaluate the tax paid by the consumer and the change of his welfare implied by the imposition of a tax. Afterwards both evaluations have to be combined in order to measure the excess burden. Thus we employ two concepts: one is the measure of welfare change, the other is the amount of tax paid. It will be shown that some few axioms suffice to characterize a measure of excess burden uniquely. It turns out that the only measure which satisfies the axioms proposed is a (generalization of) Kay's excess burden.

Economides, Nicholas

PD November 1986. **TI** One-Sided and Two-Sided Commitments. **AA** Department of Economics, Columbia University. **SR** Columbia Department of Economics Working Paper: 337; Department of Economics, Columbia University, New York, NY 10027. **PG** 19. **PR** $5.00. **JE** 022, 026, 611. **KW** Commitment. Precommitment. Quality of Goods. Game Theory.

AB We analyse through a series of examples the effects of precommitment in a strategic variable (quality). We show that while precommitment increases the profits of the precommitting firm it may harm or benefit its passive opponent depending on the marginal cost of the precommitting variable. The benefit to a firm of precommitment increases when the opponent precommits. The option to increase the quality in the second stage never helps the precommitting firm and in fact it harms it when marginal costs of quality are high.

Edwards, Sebastian

PD December 1986. **TI** Terms of Trade, Exchange Rates and Labor Markets Adjustment in Developing Countries. **AA** Department of Economics, University of California, Los Angeles. **SR** University of California at Los Angeles Department of Economics Working Paper: 425; Department of Economics, University of California at Los Angeles, 405 Hilgard Avenue, Los Angeles, CA 90024. **PG** 49. **PR** $2.50 (checks payable to University of California Regents). **JE** 431, 411, 421, 422, 121, 821.

KW Trade. Exchange Rates. Developing Countries. Open Economy. Terms of Trade. Wages.
AB This paper uses three models of a small open economy to analyze the effects of terms of trade and exchange rate changes (i.e. devaluations) on labor market adjustment. First, a three goods (exportables, importables, non-tradables), four factors model is developed and used to investigate how an exogenous worsening of the international terms of trade affect labor allocation and wages. Second, a more traditional three goods, two factors model is used, and its results are compared to those of the first case. The analysis is carried out under alternative assumptions regarding wage flexibility: full flexibility, economy-wide (real) wage rigidity, and sector specific real wage rigidity. Finally, a three final goods model with imported intermediate inputs is used to investigate the effects of devaluations on aggregate and sectoral employment. Here the conditions under which a devaluation will be contractionary (i.e. will result in a reduction of employment) are determined.

PD December 1986. **TI** Terms of Trade, Exchange Rates and Labor Markets Adjustment in Developing Countries. **AA** Department of Economics, University of California Los Angeles. **SR** National Bureau of Economic Research Working Paper: 2110; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PR** $2.00. **JE** 431, 121, 821, 023. **KW** Terms of Trade. Exchange Rates. Developing Countries. Labor Markets. Wages. Devaluation.
AB This paper uses three models of a small open economy to analyze the effects of terms of trade and exchange rate changes (i.e. devaluations) on labor market adjustment. First, a three goods (exportables, importables, non-tradables), four factors model is developed and used to investigate how an exogenous worsening of the international terms of trade affect labor allocation and wages. Second, a more traditional three goods, two factors model is used, and its results are compared to those of the first case. The analysis is carried out under alternative assumptions regarding wage flexibility: full flexibility, economy-wide (real) wage rigidity, and sector specific real wage rigidity. Finally, a three final goods model with imported intermediate inputs is used to investigate the effects of devaluations on aggregate and sectoral employment. Here the conditions under which a devaluation will be contractionary (i.e. will result in a reduction of employment) are determined.

PD January 1987. **TI** The Order of Liberalization of the Current Capital Accounts and the Real Exchange Rate: A Model and Some Reflection Based on the Southern Cone Experience. **AA** Department of Economics, University of California, Los Angeles. **SR** University of California at Los Angeles Department of Economics Working Paper: 427; Department of Economics, University of California at Los Angeles, 405 Hilgard Avenue, Los Angeles, CA 90024. **PG** 31. **PR** $2.50; checks payable to University of California Regents. **JE** 431, 421, 422, 112, 111, 121, 441. **KW** Capital Accounts. Exchange Rate. Southern Cone. Chile. Tariff. Balance of Payments.
AB In this paper a general equilibrium intertemporal model with optimizing consumers and producers is developed to analyze how different policies geared at liberalizing the current and capital accounts of the balance of payments affect the equilibrium real exchange rate (RER). In particular, the effects of a reduction in the level of import tariffs and of a change in the tax on foreign borrowing on the equilibrium RER are investigated. In the case of import tariffs, both a temporary and an anticipated liberalization are considered. It is shown that in the case of tariffs reduction it is not possible to know a priori whether the equilibrium RER will appreciate or depreciate. However, a liberalization of the capital account will always result in an equilibrium real appreciation in the current period. It is then argued that analyses of this type are essential to evaluate whether observed movements in the RER represent a misalignement situation or if they are an equilibrium phenomenon. The case of the recent liberalization attempts in the Southern Cone are also discussed.

PD February 1987. **TI** The Liberalization of the Current Capital Accounts and the Real Exchange Rate. **AA** Department of Economics, University of California Los Angeles. **SR** National Bureau of Economic Research Working Paper: 2162; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PR** $2.00. **JE** 431, 441, 442, 432, 421, 422. **KW** Exchange Rate. Capital Account. Intertemporal Model. Balance of Payments. Tariff. Southern Cone.
AB In this paper a general equilibrium intertemporal model with optimizing consumers and producers is developed to analyze how different policies geared at liberalizing the current and capital accounts of the balance of payments affect the equilibrium real exchange rate (RER). In particular, the effects of a reduction in the level of import tariffs and of a change in the tax on foreign borrowing on the equilibrium RER are investigated. In the case of import tariffs, both a temporary and an anticipated liberalization are considered. It is shown that in the case of tariffs reduction it is not possible to know a priori whether the equilibrium RER will appreciate or depreciate. However, a liberalization of the capital account will always result in an equilibrium real appreciation in the current period. It is then argued that analyses of this type are essential to evaluate whether observed movements in the RER represent a misalignment situation or if they are an equilibrium phenomenon. The case of the recent liberalization attempts in the Southern Cone are also discussed.

PD February 17, 1987. **TI** Economic Liberalization and the Equilibrium Real Exchange Rate in Developing Countries. **AA** Department of Economics, University of California at Los Angeles. **SR** University of California at Los Angeles Department of Economics Working Paper: 433; Department of Economics, University of California at Los Angeles, Los Angeles, CA 90024. **PG** 44. **PR** $2.50. **JE** 400, 431, 121, 421, 422, 441. **KW** Liberalization. Exchange Rate. Developing Countries. LDC. Commercial Policy. Tariffs. Capital Mobility. Trade.
AB This paper deals with the relation between commercial policy and "the" equilibrium real exchange rate. The paper clarifies the meaning of real exchange rate by comparing five different definitions that are currently found in the literature. The analysis focuses on the effects of an economic liberalization program that reduces import tariffs on the equilibrium real exchange rate under a

number of alternative assumptions regarding capital mobility. From a policy perspective this is an important issue, since countries that embark on liberalization are usually concerned with avoiding real exchange rate misalignment and overvaluation. The effects of terms of trade shocks on the equilibrium real exchange rate are also investigated.

PD March 1987. **TI** Economic Liberalization and the Equilibrium Real Exchange Rate in Developing Countries. **AA** Department of Economics, University of California at Los Angeles. **SR** National Bureau of Economic Research Working Paper: 2179; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PR** $2.00. **JE** 422, 421, 431, 121. **KW** Exchange Rate. LDC. Developing Countries. Commercial Policy. Tariff. Capital Mobility. Trade Shocks.

AB This paper deals with the relation between commercial policy and "the" equilibrium real exchange rate. The paper clarifies the meaning of real exchange rate by comparing five different definitions that are currently found in the literature. The analysis focuses on the effects of an economic liberalization program that reduces import tariffs on the equilibrium real exchange rate under a number of alternative assumptions regarding capital mobility. From a policy perspective this is an important issue, since countries that embark on liberalization are usually concerned with avoiding real exchange rate misalignment and overvaluation. The effects of terms of trade shocks on the equilibrium real exchange rate are also investigated.

PD March 1987. **TI** Tariffs, Terms of Trade, and the Real Exchange Rate in an Intertemporal Optimizing Model of the Current Account. **AA** Department of Economics, University of California at Los Angeles. **SR** National Bureau of Economic Research Working Paper: 2175; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PR** $2.00. **JE** 431, 421, 422, 023. **KW** Terms of Trade. Exchange Rate. Intertemporal Model. Current Account. Tariffs. Overshooting.

AB In this paper a minimal general equilibrium intertemporal model, with optimizing consumers and producers, is developed to analyze the process of real exchange rate determination. The model is completely real, and considers a small open economy that produces and consumes three goods each period. The model is also used to analyze the way in which the current account responds to several shocks. The working of the model is illustrated for the case of two disturbances: the imposition of import tariffs, and external terms of trade shocks. In the case of import tariffs, a distinction is made between temporary, anticipated, and permanent changes. It is shown that, without imposing rigidities or adjustment costs, interesting paths for the equilibrium real exchange rate can be generated. In particular "overshooting" and movements in opposite directions in periods one and two can be observed. Precise conditions under which temporary import tariffs will improve the current account are derived. Finally, several ways in which the model can be extended to take into account other issues such as changes in the fiscal deficit, and financial deregulation are discussed in detail.

PD March 9, 1987. **TI** Anticipated Protectionist Policies, Real Exchange Rates and the Current Account. **AA** University of California, Los Angeles. **SR** University of California at Los Angeles Department of Economics Working Paper: 437; Department of Economics, University of California at Los Angeles, 405 Hilgard Avenue, Los Angeles, CA 90024. **PG** 27. **PR** $2.50 (checks payable to University of California Regents). **JE** 421, 422, 431, 411, 023. **KW** Protectionist Policies. Exchange Rates. Current Account. Intertemporal Model. Tariffs. Overshooting.

AB In this paper a general equilibrium intertemporal model, with optimizing consumers and producers, is developed to analyze how the anticipation of future import of tariffs affects real exchange rates and the current account. The model is completely real, and considers a small open economy that produces and consumes three goods each period. It is shown that, without imposing rigidities or adjustment costs, interesting paths for the equilibrium real exchange rate can be generated. In particular "equilibrium overshooting" can be observed. Precise conditions under which an anticipated future import tariff will worsen the current account in period 1 are derived. Several ways in which the model can be extended are also discussed in detail. The results obtained from this model have important implications for the analysis of real exchange rate misalignment and overvaluation.

Eichenbaum, Martin

PD March 1987. **TI** Estimating Models with Intertemporal Substitution Using Aggregate Time Series Data. **AU** Eichenbaum, Martin; Hansen, Lars Peter. **AA** Eichenbaum: Graduate School of Industrial Administration, Carnegie-Mellon University. Hansen: Department of Economics, University of Chicago. **SR** National Bureau of Economic Research Working Paper: 2181; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PR** $2.00. **JE** 023, 022, 921, 212. **KW** Permanent Income. Consumption. Intertemporal Asset Pricing Model. Durable Goods. Nondurable Goods.

AB In conducting empirical investigations of the permanent income model of consumption and the consumption-based intertemporal asset pricing model, various authors have imposed restrictions on the nature of the substitutability of consumption across goods and over time. In this paper we suggest a method for testing some of these restrictions and present empirical results using this approach. Our empirical analyses focuses on three questions: (i) Can the services from durable and nondurable goods be treated as perfect substitutes? (ii) Are preferences completely separable between durable and nondurable goods? (iii) What is the nature of intertemporal substitutability of nondurable consumption? When consumers' preferences are assumed to be quadratic, there is very little evidence against the hypothesis that the services from durable goods and nondurable goods are perfect substitutes. These results call into question the practice of testing quadratic models of aggregate consumption using data on nondurables and services only. When we consider S branch specifications, we find more evidence against perfect substitutability between service

flows, but less evidence against strict separability across durable and nondurable consumption goods. Among other things, these findings suggest that the empirical shortcomings of the intertemporal asset pricing model cannot be attributed to the neglect of durable goods.

Eichengreen, Barry

PD January 1987. **TI** The Anatomy of Financial Crises. **AU** Eichengreen, Barry; Portes, Richard. **AA** Eichengreen: Department of Economics, Harvard University. Portes: Centre for Economic Policy Research. **SR** National Bureau of Economic Research Working Paper: 2126; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PR** $2.00. **JE** 441, 313, 133, 431, 433, 443, 312. **KW** Financial Crises. Asset Prices. Financial Markets. Insolvency. Bank Failure. Debt Default. Exchange Rates. International Capital Markets.

AB A financial crisis is a disturbance to financial markets, associated typically with falling asset prices and insolvency among debtors and intermediaries, which spreads through the financial system, disrupting the market's capacity to allocate capital. In this paper we analyze the generation and propagation of financial crises in an international setting. We provide a perspective on the danger of a serious disruption to the global financial system by comparing the last full-fledged financial crisis - that of the 1930s - with conditions prevailing today. Our definition of a financial crisis implies a distinction between generalized financial crises on the one hand and isolated bank failures, debt defaults and foreign-exchange market disturbances on the other. We represent this distinction in three sets of linkages: between debt defaults; and between exchange-market disturbances and bank failures. In both the 1930s and 1980s, the institutional environment was drastically altered by rapid change in foreign exchange markets, in international capital markets, and in the structure of domestic banking systems. Our comparative analysis underscores the critical role played by institutional arrangements in financial markets as a determinant of the system's vulnerability to destabilizing shocks.

PD March 1987. **TI** The Gold-Exchange Standard and the Great Depression. **AA** University of California, Berkeley. **SR** National Bureau of Economic Research Working Paper: 2198; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PR** $2.00. **JE** 041, 430, 421, 422, 441, 131, 023. **KW** Gold Standard. Great Depression. International Monetary System. Monetary Policies. Competitive Devaluations. Foreign Exchange Reserves.

AB A number of explanations for the severity of the Great Depression focus on the malfunctioning of the international monetary system. One such explanation emphasizes the deflationary monetary consequences of the liquidation of foreign-exchange reserves following competitive devaluations by Great Britain and her trading partners. Another emphasizes instead the international monetary policies of the Federal Reserve and the Bank of France. This paper analyzes both the exceptional behavior of the United States and France and the shift out of foreign exchange after 1930. While both Franco-American gold policies and systemic weaknesses of the international monetary system emerge as important factors in explaining the international distribution of reserves, the first of these factors turns out to play the more important role in the monetary stringency associated with the Great Depression.

PD March 1987. **TI** Hegemonic Stability Theories of the International Monetary System. **AA** Department of Economics, University of California, Berkeley. **SR** National Bureau of Economic Research Working Paper: 2193; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PR** $2.00. **JE** 432, 431, 420, 441, 442, 311. **KW** Hegemony. International Monetary order. Bretton Woods System. Monetary Stability.

AB Specialists in international relations have argued that international regimes operate smoothly and exhibit stability only when dominated by a single, exceptionally powerful national economy. In particular, this "theory of hegemonic stability" has been applied to the international monetary system. The maintenance of the Bretton Woods System for a quarter century through 1971 is ascribed to the singular power of the United States in the postwar world, while the persistence of the classical gold standard is similarly ascribed to Britain's dominance of the 19th-century international economy. In contrast, the instability of the interwar gold-exchange standard is attributed to the absence of a hegemonic power. This paper assesses the applicability of hegemonic stability theory to international monetary relations, approaching the question from both theoretical and empirical vantage points. While that theory is of some help for understanding the relatively smooth operation of the classical gold standard and early Bretton Woods System as well as some of the difficulties of the interwar years, much of the evidence proves to be difficult to reconcile with the hegemonic stability view.

PD March 1987. **TI** International Competition in the Products of U.S. Basic Industries. **AA** Department of Economics, University of California, Berkeley. **SR** National Bureau of Economic Research Working Paper: 2190; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PR** $2.00. **JE** 133, 431, 122, 442, 421, 422, 411. **KW** United States. Basic Industries. National Production. Product Cycle. Labor Management Relations. International Competition.

AB This paper provides an overview of recent trends in the United States basic industries. It first documents the dramatic fall in their shares of domestic employment and global production. It then considers explanations for these industries' relative -- and, in some instances, absolute -- decline. Those explanations fall into two categories: domestic explanations which focus on the decisions of labor, management and government, and international explanations which focus on the tendency of the product cycle to continually shift the production of established products and standardized processes to newly-industrializing countries. This review suggests that the recent difficulties of the United States basic industries have resulted not from one or the other of these factors but from their interplay. Insofar as product-cycle-based shifts in the international pattern of comparative advantage have contributed to recent difficulties, some decline in the United States basic industries is both inevitable -- barring increased protection -- and justifiable on efficiency grounds.

Insofar as labor, management and government decisions share responsibility, the recent difficulties of United States basic industries may be at least partially reversible.

Engel, Charles

PD February 1987. **TI** Saving and Investment in an Open Economy with Non-Traded Goods. **AU** Engel, Charles; Kletzer, Kenneth. **AA** Engel: National Bureau of Economic Research, Cambridge. Kletzer: Economic Growth Center, Yale University. **SR** National Bureau of Economic Research Working Paper: 2141; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PR** $2.00. **JE** 023, 431, 441, 442, 411. **KW** Open Economy. Capital Mobility. Non-Traded Good. Saving. Investment.

AB We examine a model of a small open economy in which there is free international mobility of financial capital, investment in capital goods and a non-traded good. Such an environment is rich enough to explain several phenomena that are inexplicable in more barren models. We suggest an explanation of why saving and investment may be correlated even with no restrictions on trade in assets. We explain why a high saving country may nonetheless borrow from abroad to finance investment. We also provide an optimizing model of stages in the balance of payments.

PD February 1987. **TI** The Real Effects of Foreign Inflation in the Presence of Currency Substitution. **AA** National Bureau of Economic Research, Cambridge. **SR** National Bureau of Economic Research Working Paper: 2140; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PR** $2.00. **JE** 431, 134, 023, 432. **KW** Inflation. Currency Substitution. Exchange Rate. Traded Assets. Inflation Transmission. Open Economy.

AB The paper explores optimising models of small open economies that hold foreign money balances. Particular attention is paid to the impact of foreign inflation on the real exchange rate and other real variables. At first, an environment in which foreign money is the only traded asset is explored. This is compared to a more general setting in which many assets can be traded. The effect of foreign inflation on domestic real variables depends on: 1) the degree to which it causes a substitution out of traded assets as a whole and into non-traded assets, and 2) the change in real returns on the portfolio of traded assets held by domestic residents.

Ericsson, Neil R.

TI An Analogue Model of Phase-Averaging Procedures. **AU** Campos, Julia; Ericsson, Neil R.; Hendry, David F.

Evans, Merran A.

TI Locally Optimal Properties of the Durbin-Watson Test. **AU** King, Maxwell L.; Evans, Merran A.

PD March 1987. **TI** The Twelfth Order Analogue of the Durbin-Watson Test. **AA** Monash University. **SR** Monash Department of Econometrics and Operations Research Working Paper: 3/87; Department of Econometrics and Operations Research, Monash University, Clayton, Victoria 3168, AUSTRALIA. **PG** 10. **PR** No Charge. **JE** 211. **KW** Hypothesis Testing. Linear Regression. Autocorrelation. Monthly Data. Serial Correlation. Significance Bounds.

AB This paper provides five percent significance bounds on critical values of the twelfth order analogue of the Durbin-Watson test. These tables are useful for testing for twelfth order autocorrelation in regression models with monthly data which include either an intercept or a full set of monthly seasonal dummies.

Fair, Ray C.

PD December 1986. **TI** International Evidence on the Demand for Money. **AA** Cowles Foundation, Yale University. **SR** Yale Cowles Foundation Discussion Paper: 813; Cowles Foundation for Research in Economics, 30 Hilhouse Avenue, Box 2125 Yale Station, New Haven, CT 06520. **PG** 13. **PR** No Charge. **JE** 311, 023, 123, 212. **KW** Money Demand.

AB One of the current questions in the literature on the demand for money is whether the adjustment of actual to desired money holdings is in nominal or real terms. This paper describes a simple procedure that can be used to test the nominal against the real hypothesis. The test is carried out for 27 countries. The paper also tests the structural stability of the demand for money equations and the correctness of the dynamic specification.

PD December 1986. **TI** Forecasting the Depression; Harvard Versus Yale. **AU** Fair, Ray C.; Shapiro, Matthew D.; Dominquez, Kathryn D. **AA** Cowles Foundation for Research in Economics, Yale University. **SR** National Bureau of Economic Research Working Paper: 2095; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PR** $2.00. **JE** 132, 131, 031. **KW** Depression. Forecasting. Harvard. Yale.

AB Was the Depression forecastable? After the Crash, how long did it take contemporary economic forecasters to realize how severe the downturn was going to be? How long should it have taken them to come to this realization? These questions are addressed by studying the predictions of the Harvard Economic Service and Yale's Irving Fisher during 1929 and the early 1930's. The data assembled by the Harvard and Yale forecasters are subjected to modern statistical analysis to learn whether their verbal pronouncements were consistent with the data. We find that both the Harvard and Yale forecasters were systematically too optimistic, yet nothing in the data suggests that the optimism was unwarranted.

PD December 1986. **TI** Interest Rate and Exchange Rate Determination. **AA** Cowles Foundation, Yale University. **SR** National Bureau of Economic Research Working Paper: 2105; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PR** $2.00. **JE** 431, 212, 132. **KW** Exchange Rates. Interest Rates. Multicountry Econometric Model.

AB Since Meese and Rogoff's (1983) results, the view has become fairly widespread that structural models of exchange rates are not very good. There is, however, somewhat of a dichotomy in the literature between those who deal with small models, where the focus is almost exclusively on exchange rates, and those who deal with large macroeconometric models, where exchange rates make up only a small subset of the endogenous variables.

Most of the emphasis has been on the first approach, and it may be that exchange rate determination within the context of large models has not been given a sufficient hearing. Exchange rate and interest rate equations are estimated and analyzed for 17 countries in this paper. This study is part of a larger project of constructing a multicountry econometric model. One of the aims of the paper is to see if the exchange rate equations that are part of my multicountry model also suffer from the Meese and Rogoff criticism. The results show that the view that structural exchange rate models are not very good may be too pessimistic.

PD December 1986. **TI** International Evidence on the Demand for Money. **AA** Cowles Foundation, Yale University. **SR** National Bureau of Economic Research Working Paper: 2106; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PR** $2.00. **JE** 313, 212, 123. **KW** Money Demand. International Monetary Theory.

AB One of the current questions in the literature on the demand for money is whether the adjustment of actual to desired money holdings is in nominal or real terms. This paper describes a simple procedure than can be used to test the nominal against the real hypothesis. The test is carried out for 27 countries. The paper also tests the structural stability of the demand for money equations and the correctness of the dynamic specification. The results are strongly in favor of the nominal adjustment hypothesis. The estimated equations are quite good in terms of the number of coefficient estimates that are of the right sign and that are significant. The equations also stand up well when tested against a more general dynamic specification. There is, however, some evidence of structural instability before and after 1973, although the instability is generally moderate. The instability does not affect the conclusion that the nominal adjustment hypothesis dominates the real adjustment hypothesis.

PD December 1986. **TI** Sources of Output and Variability in a Macroeconomic Model. **AA** Cowles Foundation, Yale University. **SR** National Bureau of Economic Research Working Paper: 2112; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PR** $2.00. **JE** 131, 132, 212. **KW** Macroeconometric Models. Output Variability. Price Variability.

AB There has been much recent discussion about the ultimate sources of macroeconomic variability. A number of authors attribute most of this variability to only a few sources, sometimes only one. Although there may be only a few important sources, this is far from obvious, since economies seem complicated. The purpose of this paper is to provide quantitative estimates of various sources of variability using my United States econometric model. Stochastic simulation is used to estimate how much the overall variances of real Gross National Product and the GNP deflator are reduced when various shocks are surpressed in the model. The results show two main things. The first is that the contribution of a given shock to the variance can vary considerably as the length ahead of the prediction varies. What is important for the one-quarter-ahead prediction may not be important for the eight-quarter-ahead prediction, and vice versa. The second is that the results imply that there are many important sources of variability for real GNP. It is not the case that one or two sources dominate. This is less true for the GNP deflator, however, where there are two very important sources, shocks to the price and wage equations and shocks to the price of imports, and one moderately important one, shocks to the government exogenous variables.

PD January 1987. **TI** Sources of Output and Price Variability in a Macroeconometric Model. **AA** Cowles Foundation, Yale University. **SR** Yale Cowles Foundation Discussion Paper: 815; Cowles Foundation for Research in Economics, 30 Hilhouse Avenue, Box 2125 Yale Station, New Haven, CT 06520. **PG** 26. **PR** No Charge. **JE** 023, 131, 132, 212, 134. **KW** Output Variability. Price Fluctuations. Macroeconomic Model. United States Model.

AB There has been much recent discussion about the ultimate sources of macroeconomic variability. Shiller (1987) surveys this work, where he points out that a number of authors attribute most of output or unemployment variability to only a few sources, sometimes only one. The sources vary from technology shocks for Kydland and Prescott (1982), to unanticipated changes in the money stock for Barro (1977), to "unusual structural shifts," such as changes in the demand for produced goods relative to services, for Lilien (1982), to oil price shocks for Hamilton (1983), to changes in desired consumption for Hall (1986). (See Shiller (1987) for more references.) Although it may be that there are only a few important sources of macroeconomic variability, this is far from obvious. Economies seem complicated, and it may be that there are many important sources. The purpose of this paper is to estimate the quantitative importance of various sources of variability using a macroeconometric model. Macroeconometric models provide an obvious vehicle for estimating the sources of variability of endogenous variables. There are two types of shocks that one needs to consider: shocks to the stochastic equations and shocks to the exogenous variables. Shocks to the stochastic equations are easy to handle. They are simply draws from the postulated distribution (usually normal) of the structural error terms, the distribution upon which the estimation of the model is based. Shocks to the exogenous variables are less straightforward to handle. Since by definition exogenous variables are not modeled, it is not unambiguous what one means by an exogenous-variable shock. One possibility is to postulate, say, an autoregressive equation for each exogenous variable and take the error term from this equation as measuring the exogenous-variable shock. Another possibility is to postulate that exogenous-variable shocks are the errors that forecasting services make in their forecasts of the exogenous variables. The sources of output and price variability are examined in this paper using my United States model (Fair (1984)). The procedure that was followed, which is discussed in detail in the next section, is briefly as follows. Autoregressive equations were estimated for 23 exogenous variables in the model. These variables make up all the important exogenous variables in the model (in my view). These equations were then added to the model. There are 30 structural stochastic equations in the model, and so the expanded model includes 53 stochastic equations. The 53 x 53 covariance matrix of the error terms was then estimated. In estimating this matrix

the error terms in the structural equations were assumed to be uncorrelated with the error terms in the exogenous-variable equations, which means that the matrix was taken to be block diagonal (with a 30 x 30 block and a 23 x 23 block). This procedure is consistent with the assumption upon which the estimation of the model is based, namely that the exogenous variables are not correlated with the error terms in the structural equations.

PD January 1987. **TI** Optimal Choice of Monetary Policy Instruments in a Macroeconomic Model. **AA** Cowles Foundation, Yale University. **SR** Yale Cowles Foundation Discussion Paper: 818; Cowles Foundation for Research in Economics, 30 Hilhouse Avenue, Box 2125 Yale Station, New Haven, CT 06520. **PG** 23. **PR** No Charge. **JE** 311, 023, 212. **KW** Monetary Policy. Money Supply. Interest Rate. Monetary Authority.

AB It has been nearly twenty years since Poole (1970) wrote his classic article on the optimal choice of monetary policy instruments in a stochastic IS-LM model. Poole assumed that the monetary authority (henceforth called the Fed) can control the interest rate or the money supply exactly. These are the two "instruments" of monetary policy. If the aim is to minimize the squared deviation of real output from its target value, Poole showed that the choice of the optimal instrument depends on the variance of the error term in the IS function, the variance of the error term in the LM function, the covariance of the two error terms, and the size of the parameters in the two functions. Most people would probably agree that between about October 1979 and October 1982 the Fed tried to use the money supply as its primary instrument. This attempt does not appear to have been successful in the sense that since about October 1982 the Fed seems to have gone back to using the interest rate as its primary instrument. If the interest rate has won out, it is interesting to ask if this decision can be justified on the basis of the Poole analysis. Is the economy one in which the relevant variances, covariances, and parameters are such as to lead, a la the Poole analysis, to the optimal instrument being the interest rate? The purpose of this paper is to examine this question using my United States econometric model. Are the variances, covariances, and parameters in the model such as to favor one instrument over the other, in particular the interest rate over the money supply? This question can be examined in an econometric model by the use of stochastic simulation. Interestingly enough, Poole's analysis has never been tried on an actual econometric model. The closest study in this respect is that of Tinsley and von zur Muehlen (1983), although they did not analyze the same question that Poole did. Other studies that have extended Poole's work, such as those of Turnovsky (1975) and Yoshikawa (1981), have been primarily theoretical.

PD February 1987. **TI** Optimal Choices of Monetary Policy Instruments in a Macroeconomic Model. **AA** Cowles Foundation, Yale University. **SR** National Bureau of Economic Research Working Paper: 2150; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PR** $2.00. **JE** 311, 023, 313. **KW** Monetary Policy. Interest Rate. Money Supply. Stock Prices. Money Demand.

AB This paper uses stochastic simulation and my United States econometric model to examine the optimal choice of monetary policy instruments. Are the variances, covariances, and parameters in the model such as to favor one instrument over the other, in particular the interest rate over the money supply? The results show that the interest rate and the money supply are about equally good as policy instruments in terms of minimizing the variance of real GNP. The variances of some of the components of GNP are, however, much larger when the money supply is the policy instrument, as is the variance of the change in stock prices. Therefore, if one's loss function is expanded beyond simply the variance of real GNP to variances of other variables, the interest rate policy does better. The results thus provide some support for what seems to be the Fed's current choice of using the interest rate as its primary instrument. Stochastic simulation is also used to estimate how much of the variance of real GNP is due to the error terms in the demand for money equations. The results show that the contribution is not very great even when the money supply is the policy instrument.

Farber, Henry S.

PD January 1987. **TI** Divergent Expectations as a Cause of Disagreement in Bargaining: Evidence From a Comparison of Arbitration Schemes. **AU** Farber, Henry S.; Bazerman, Max H. **AA** Farber: Department of Economics, Massachusetts Institute of Technology. Bazerman: Kellogg School of Management, Northwestern University. **SR** Massachusetts Institute of Technology Department of Economics Working Paper: 438; Department of Economics, Massachusetts Institute of Technology Cambridge, MA 02139. **PG** 34. **PR** No Charge. **JE** 832, 026. **KW** Bargaining. Arbitration. Disputes. Settlements. Negotiations. Contracts. Labor-Management Negotiations.

AB One prominent explanation for disagreement in bargaining is that the parties have divergent and relatively optimistic expectations regarding the ultimate outcome if they fail to agree. The fact that settlement rates are much higher where final-offer arbitration is the dispute settlement procedure than where conventional arbitration is the dispute settlement procedure is used as the basis of a test of the role of divergent expectations in causing disagreement in negotiations. Calculations of identical-expectations contract zones using existing estimates of models of arbitrator behavior yield larger identical-expectations contract zones in conventional arbitration than in final-offer arbitration. This evidence clearly suggests that divergent expectations alone are not an adequate explanation of disagreement in labor-management negotiations. A number of alternative explanations for disagreement are suggested and evaluated.

TI Divergent Expectations as a Cause of Disagreement in Bargaining: Evidence From A Comparison of Arbitration Schemes. **AU** Bazerman, Max H.; Farber, Henry S.

Farrell, Joseph

PD September 1986. **TI** Meaning and Credibility in Cheap-Talk Games. **AA** Department of Economics, University of California at Berkeley. **SR** University of California at Berkeley Department of Economics Working

Paper: 8609; Department of Economics, University of California at Berkeley, Berkeley, CA 94720. **PG** 16. **PR** $3.50. **JE** 026. **KW** Communication. Signaling. Refinement of Equilibrium. Language. Cheap-Talk. Game Theory. Lies.

AB In modeling verbal communication, it is natural to think of "messages" as not directly affecting payoffs: talk is cheap. Unfortunately, the standard restrictions on out-of-equilibrium beliefs scarcely if at all restrict beliefs in a model of cheap talk. This leaves us with an embarrassing plethora of equilibria. If, instead of asking about equilibria in the game in isolation, we recognize the possibility that players share a rich natural language, then even messages not used in this equilibrium (neologisms) may have a focal meaning: their literal meaning. Although honesty may not always be the best policy, it is a focal policy, and we suppose that if there is no incentive to be dishonest, assuming that one's listeners assume one to be honest, then one will be honest: that is, speak the literal truth. This assumption links literal meaning to reality if it happens that there are no incentives to lie. In some cases, this restricts out-of-equilibrium beliefs, and hence restricts the set of equilibria. This refinement is the purpose of the paper. There are three objections to this argument, which, we discuss. First, every equilibrium outcome can be generated in an equilibrium in which all messages are used with positive probability; hence, arguments about out-of-equilibrium beliefs would seem to lack force. Second, how do neologisms have meaning? Third, why should a disequilibrium message be believed? We argue that, while these objections have some force, they do not completely meet the case. We give examples showing what our proposed restriction on beliefs accomplishes, and note that there may be no equilibrium satisfying our restrictions. We discuss a dynamic evolutionary interpretation in which the absence of equilibrium means that the process never settles down.

PD September 26, 1986. **TI** Competition, Compatibility and Standards: The Economics of Horses, Penguins and Lemmings. **AU** Farrell, Joseph; Solaner, Garth. **AA** Department of Economics, University of California at Berkeley. **SR** University of California at Berkeley Department of Economics Working Paper: 8610; Department of Economics, University of California at Berkeley, Berkeley, CA 94720. **PG** 27. **PR** $3.50. **JE** 610, 620. **KW** Compatibility. Standards. Standardization. Innovation.

AB We survey the existing economic literature and some promising future avenues of research in the theory of compatibility standards and standardizations.

PD November 1986. **TI** Communication Between Potential Entrants. **AA** GTE Laboratories and University of California at Berkeley. **SR** University of California at Berkeley Department of Economics Working Paper: 8615; IBER, 156 Barrows Hall University of California at Berkeley, Berkeley, 94720. **PG** 11. **PR** $3.50. **JE** 611, 026. **KW** Entry. Communication. Natural Monopoly. Coordination. Nomination.

AB We analyse the symmetric equilibrium of a game of announcements between two potential entrants, only one of whom can profitably enter. The ability to communicate (in a costless, non-verifiable, non-binding way) makes coordination failures (both enter or neither does) less likely than in the symmetric equilibrium of the entry game without communication. Even in the limit as there are very many rounds of communication, however, the probability of coordination failures does not go to zero. Equilibrium in early rounds involves both firms almost certainly announcing that they will enter; later, one is more likely to "drop out.".

PD December 1986. **TI** Competition, Compatibility and Standards: The Economics of Horses, Penguins and Lemmings. **AU** Farrell, Joseph; Saloner, Garth. **AA** Farrell: University of California, Berkeley and GTE Laboratories, Incorporated. Saloner: Massachusetts Institute of Technology and National Fellow, Hoover Institution. **SR** Stanford Hoover Institute Working Paper in Economics: E-86-73; Domestic Studies Program Working Paper Series, Hoover Institution, Stanford University, Stanford, CA 94305. **PG** 36. **PR** No Charge. **JE** 610, 621. **KW** Compatibility. Standards. Standardization. Innovation.

AB We survey the existing economic literature and some promising future avenues of research in the theory of compatibility standards and standardizations.

PD February 1987. **TI** Dynamic Competition with Lock-In. **AU** Farrell, Joseph; Shapiro, Carl. **AA** Farrell: GTE Laboratories and U.C. Berkeley. Shapiro: Woodrow Wilson School, Princeton University. **SR** Princeton Woodrow Wilson School Discussion Paper in Economics: 121; Woodrow Wilson School, Princeton University, Princeton, NJ 08544. **PG** 35. **PR** No Charge. **JE** 022, 611. **KW** Switching Costs. Dynamic Competition. Lock-In. Long-Term Relationships. Duopoly. Network Externalities.

AB We analyse a duopoly model of multiperiod rivalry in the presence of consumer switching costs. Competition for locked-in buyers is continually intermingled with competition for new, uncommitted buyers. A typical equilibrium pattern is for the incumbent - the firm with locked-in customers - to exploit those customers and concede the new buyers to its rival. This pattern persists even in the presence of economies of scale, network externalities, or cost differences. Switching costs thus can lead to inefficiency in a surprising way: rather than serve as an entry barrier, they encourage entry to serve unattached customers even in circumstances where the entrant is less efficient than the incumbent.

Feldstein, Martin

PD January 1987. **TI** How Far Has the Dollar Fallen? **AU** Feldstein, Martin; Bacchetta, Philippe. **AA** National Bureau of Economic Research, Cambridge. **SR** National Bureau of Economic Research Working Paper: 2122; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PR** $2.00. **JE** 431, 227, 134. **KW** Exchange Rates. Depreciation. Dollar. Inflation. Exchange Rate Index.

AB The present paper introduces a new index of the real value of the dollar relative to 80 other currencies. The individual exchange rates are combined with weights that reflect the recent (1984) multilateral pattern of trade. This new index confirms that the dollar rose very sharply between January 1980 and February 1985 and that about two-thirds of that appreciation was reversed by July 1986.

This is true for both our multilateral and bilateral real indices. The analysis also shows that any index that fails to adjust for differences in inflation rates will give a very misleading impression of the dollar's evolution in the 1980s.

Feltenstein, Andrew

PD February 1987. **TI** Savings, Commodity Market Rationing and the Real Rate of Interest in China. **AU** Feltenstein, Andrew; Lebow, David; van, Wijnbergen Sweder. **AA** Feltenstein: University of Kansas. Lebow: Princeton University. van Wijnbergen: The World Bank. **SR** National Bureau of Economic Research Working Paper: 2172; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PR** $2.00. **JE** 121, 124, 921, 023, 227. **KW** Saving. Commodity Rationing. China. Disequilibrium. Price Index.

AB This paper uses an intertemporal, disequilibrium framework to analyze the rapid increase in personal savings that has taken place in China since 1979. A theoretical model of savings behavior under rationing is developed, and a specification of a "virtual" price index is derived. The virtual price index is then used to estimate certain savings functions, and is found to explain the data better than official price indices. When savings are allowed to depend on real interest rates, defined in terms of the virtual price index, a negative and significant interest rate effect on consumption is found. Using official prices these results no longer hold.

Fisher, Franklin M.

PD February 1987. **TI** Horizontal Mergers and Antitrust Policy. **AA** Massachusetts Institute of Technology. **SR** Massachusetts Institute of Technology Department of Economics Working Paper: 439; Department of Economics, Massachusetts Institute of Technology Cambridge, MA 02139. **PG** 31. **PR** No Charge. **JE** 611, 612, 616, 916. **KW** Merger. Antitrust Law. Acquisitions. Takeovers. Antitrust Enforcement.

AB The Reagan administration has generally been very permissive in its merger policies. To an extent, that permissiveness may be viewed as a correction to the tendency of DOJ staff to substitute HHI measurement for economics, but that is only true if one thinks of different mergers as substitutes for each other. In fact, mergers have sometimes been wrongly blocked (or at least opposed by DOJ) because of unthinking application of Guideline standards, and sometimes wrongly approved because of a wish to find efficiency excuses (a wish that may be greatest where competition with foreigners is involved as in GM-Toyota or United-Pan American). The two mistakes do not compensate for each other, and neither approach is a substitute for sound analysis.

Fisher, Timothy C. G.

PD October 1986. **TI** A Translog Model of Aggregate Production and Variable Factor Utilization. **AU** Fisher, Timothy C. G.; Chung, Alan; Helliwell, John F. **AA** Department of Economics, University of British Columbia. **SR** University of British Columbia Department of Economics Discussion Paper: 86-41; Department of Economics, University of British Columbia 997 - 1873 East Mall, Vancouver, B.C. CANADA V6T 1Y2. **PG** 34. **PR** $0.20 per page Canadian to other than educational institutions. **JE** 022, 212. **KW** CES Production Function. Translog Production Function. Flexible Functional Form. Separability. Factor Utilization.

AB Many recent studies of aggregate production assume that some factors are quasi-fixed, or in other words, do not immediately adjust to long-run desired levels in response to short-run fluctuations in demand and supply. Helliwell and Chung (1986) extend the assumption of quasi-fixity to all measured factors and, using a nested CES production function, treat the rate of utilization of employed factors as an explicit decision variable based on unexpected or abnormal profitability, demand, and inventories. In this paper, we extend their work by estimating a three factor translog production function which allows for variable rates of factor utilization. The specification of a flexible functional form also allows us to test for separability, neutrality of technical change, and constant elasticities of substitution. In addition, we re-examine an empirical issue concerning the supply price of capital. Our results strongly support the model of variable rates of utilization of employed factors, even in the context of a flexible functional form for normal output. The translog results also show evidence of non-neutral technical change, and of more complex substitution possibilities than were permitted by the nested CES function.

Follain, James R.

TI Real Estate and the Tax Reform Act of 1986. **AU** Hendershott, Patric H.; Follain, James R.; Ling, David C.

Foster, N.

PD November 1986. **TI** Public and Private Sector Pay: Some Further Results. **AU** Foster, N.; Henry, S. G. B.; Trinder, C. **AA** Foster: Birkbeck College. Henry and Trinder: National Institute of Economic and Social Research. **SR** London School of Economics Centre for Labour Economics Discussion Paper: 267; Centre for Labour Economics, London School of Economics, Houghton Street, London WC2A 2AE, ENGLAND. **PG** 21. **PR** No Charge. **JE** 824, 212, 132. **KW** Intersectoral Pay. Earnings Growth. Earnings Level.

AB This paper extends an earlier one dealing with the determinants of earnings movements disaggregated into four sectors. The sectors used are manufacturing, private non-manufacturing, general government and public corporations. Earnings equations are estimated for each, paying special attention to the possibility that settlements in one sector can exert an influence upon settlements in others. The finding in our earlier study, that public corporations appear to lead other sectors, is confirmed here. The present paper also provides a dynamic analysis of the four earnings equations, by embedding them in the full National Institute macroeconometric model, and computing some of their simulation properties.

Fourgeaud, C.

PD 1986. **TI** Strong Concentration Ordering. **AU** Fourgeaud, C.; Gourieroux, C.; Pradel, J. **AA** Fourgeaud and Gourieroux: CEPREMAP. Pradel: Paris I. **SR** CEPREMAP Discussion Paper: 8612;

CEPREMAP, 142 rue du Chevaleret, 75013 Paris, FRANCE. **PG** 37. **PR** No Charge. **JE** 022. **KW** Concentration Measuring. Ordering. Cost Functions. Increasing Returns. Technical Efficiency. Lorenz Curve.

AB Considering cost functions with increasing return, we prove a property which can be interpreted in terms of concentration. We define the strong concentration relations and characterize the associated ordering by mean of functions which play a rule analogous to the usual Lorenz curves. We introduce the concept of elementary concentration operations (E.C.O.) and we prove that one distribution is more concentrated than another one if and only if it can be deduced from the latter by a sequence of E.C.O. Finally, we define scalar concentration measures and exhibit relations between concentration measures and technical efficiency.

Frankel, Jeffrey A.

PD February 1, 1986. **TI** The Desirability of a Currency Depreciation, Given a Contractionary Monetary Policy and Concave Supply Relationships. **AA** Department of Economics, University of California at Berkeley. **SR** University of California at Berkeley Department of Economics Working Paper: 8601; Department of Economics, University of California at Berkeley, Berkeley, CA 94720. **PG** 26. **PR** $3.50. **JE** 431, 311, 023. **KW** Monetary Contraction. Currency Appreciation. Exchange Rates. Inflation. Monetary Policy.

AB The paper offers an argument why, given a monetary contraction, a currency appreciation is desirable in that it allows a more favorable tradeoff between aggregate output and inflation. Assume in each of two sectors, traded and nontraded, a concave supply relationship. It follows that to maximize aggregate output for any given inflation rate, contraction or expansion should be shared equally by the two sectors. If a country contracts without currency appreciation, the burden in the domestic country will be borne disproportionately by the nontraded sector, and in the foreign country by the traded sector. Some appreciation is desirable for a balanced economy.

PD June 1, 1986. **TI** Explaining the Demand for Dollars: International Rates of Return and the Expectations of Chartists and Fundamentalists. **AU** Frankel, Jeffrey A.; Froot, Kenneth A. **AA** Frankel: Department of Economics, University of California at Berkeley. Froot: Sloan School of Management, Massachusetts Institute of Technology. **SR** University of California at Berkeley Department of Economics Working Paper: 8603; Department of Economics, University of California at Berkeley, Berkeley, CA 94720. **PG** 48. **PR** No Charge. **JE** 431, 313, 023. **KW** Speculative Bubble. Expectations. Dollar. Interest Rates. Current Account.

AB Several recent developments have inspired us to consider a non-standard model of the dollar as a speculative bubble without the constraint of fully rational expectations: (1) the dollar continued to rise in 1984 after real interest rate differentials and other fundamentals began moving the wrong way; (2) the results of market efficiency tests imply that the rationally expected rate of dollar depreciation was less than the forward discount; (3) Krugman-Marris current account calculations suggest that the rationally expected rate of depreciation was greater than the forward discount; (4) survey data show an expected rate of depreciation that was also greater than the forward discount; (5) the hypothesis of a "safe-haven" shift into United States assets and a decrease in the United States risk premium, which would explain some of the foregoing, is contradicted by a decline in the differential between offshore interest rates (covered) and United States interest rates. Our model features three classes of actors: fundamentalists, chartists and portfolio managers. Fundamentalists forecast a depreciation of the dollar based on an overshooting model that would be rational if there were no chartists. Chartists extrapolate recent trends based on an information set that includes no fundamentals. Portfolio managers take positions in the market, and thus determine the exchange rate, based on expectations that are a weighted average of the fundamentalists and chartists. The first stage of the dollar appreciation after 1980 is explained by increases in real interest differentials. The second stage is explained by the endogenous takeoff of a speculative bubble when the fundamentalists have mis-forecast for so long that they have lost credibility. In 1985, the dollar may have entered a third stage in which an ever-worsening current account deficit begins a reversal of the bubble.

PD August 1, 1986. **TI** Using Survey Data to Explain Standard Propositions Regarding Exchange Rate Expectations. **AU** Frankel, Jeffrey A.; Froot, Kenneth A. **AA** Frankel: Department of Economics, University of California at Berkeley. Froot: Sloan School of Management, Massachusetts Institute of Technology. **SR** University of California at Berkeley Department of Economics Working Paper: 8604; Department of Economics, University of California at Berkeley, Berkeley, CA 94720. **PG** 43. **PR** $3.50. **JE** 431. **KW** Exchange Rates. Expectations. Survey Data. Dollar. Risk Premium. Forward Rate.

AB Survey data provide a measure of exchange rate expectations superior to the forward rate in that no risk premium intereferes. We test standard propositions using three new sources of survey data. We estimate extrapolative, adaptive and regressive models of expectations. Static or "random walk" expectations and bandwagon expectations are rejected: current appreciation generates the expectation of future depreciation because variables other than the contemporaneous spot rate receive weight. For example, when the dollar was strong, 1981-85, it was expected to depreciate strongly against five foreign currencies. In the spot rate we find statistically significant bias.

Fredman, Benjamin M.

PD March 1987. **TI** New Directions in the Relationship Between Public and Private Debt. **AA** Department of Economics, Harvard University. **SR** National Bureau of Economic Research Working Paper: 2186; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PR** $2.00. **JE** 322, 321, 310, 521. **KW** Public Debt. National Debt. Private Sector Borrowing. Government Borrowing. Debt Markets.

AB Until the 1980s the outstanding indebtedness of government and private-sector borrowers in the United

States exhibited sufficient negative covariation that total outstanding debt remained steady relative to nonfinancial economic activity. Three hypotheses -- one based on lenders' behavior, one on borrowers' behavior, and one on credit market institutional arrangements -- provide potential explanations for this phenomenon. Since 1980 the United States debt markets have departed from these previously prevailing patterns, however, as both government and private borrowing have risen sharply.

Frenkel, Jacob A.

PD December 1986. **TI** A Guide to Target Zones. **AU** Frenkel, Jacob A.; Goldstein, Morris. **AA** Frenkel: Department of Economics, University of Chicago. Goldstein: International Monetary Fund. **SR** National Bureau of Economic Research Working Paper: 2113; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PR** $2.00. **JE** 432, 431. **KW** Exchange Rates. Target Zones. Managed Floating. Currencies.

AB This paper identifies key issues surrounding the advisability and practicality of adopting "target zones" for the exchange rates of major currencies. Four fundamental questions concerning the definition of and the rationale for target zones are addressed: first, what is generally meant by a "target zone" approach to exchange rate management and how can "hard" and "soft" versions of this approach be defined; second, what are the perceived deficiencies in the existing exchange rate system of managed floating which motivate the call for the adoption of target zones; third, how might target zones remedy these deficiencies; and fourth, what factors are behind much of the skepticism over and opposition to target zones? In addition, the paper deals with a series of operational questions of a more technical nature that weigh heavily on the practicality of implementing a target zone approach. The issues discussed include the following: how would the target zones be calculated; what currencies would be included in the system of target zones; how wide should the target zones be and how frequently should they be revised; and what policy instruments would be employed to keep actual exchange rates within the target zones, and with what consequences for other policy objectives? The purpose of the paper is not to make the case either for or against the adoption of target zones. Rather, the intention is to raise and discuss factors that should be considered in any serious discussion of the topic.

PD February 1987. **TI** The International Monetary System: Should It Be Reformed? **AA** International Monetary Fund. **SR** National Bureau of Economic Research Working Paper: 2163; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PR** $2.00. **JE** 432, 431, 133, 311, 321. **KW** International Monetary System. Exchange Rate. Macroeconomic Policy. Fiscal Management. Target Zones.

AB This paper addresses the question of reform of the international monetary system. It starts by identifying the sources of disenchantment with the performance of the present regime of floating exchange rates and by outlining the reasons for the lack of convergence of views about the characteristics of the desired system. A central theme in the discussion is that a reform of the monetary system without a fundamental change in macroeconomic policies may be harmful. The analysis proceeds by examining the broader issues and principles relevant for an evaluation of reform. The key questions are: what should be reformed, what are the costs of reform and when should the reform occur. In this context special attention is given to the "target-zones" proposal for exchange rate management. The paper concludes with the observation that a reform of the system should not be viewed as an instrument for crisis management dominated by short-term considerations, but rather should be guided by long-term perspective. It is argued that if the root cause of the current economic difficulties is fiscal imbalances in the world economy, then a drastic reform of the international monetary system (if one is needed) might better wait until nations restore a more sustainable course of fiscal management.

Froot, Kenneth A.

TI Explaining the Demand for Dollars: International Rates of Return and the Expectations of Chartists and Fundamentalists. **AU** Frankel, Jeffrey A.; Froot, Kenneth A.

TI Using Survey Data to Explain Standard Propositions Regarding Exchange Rate Expectations. **AU** Frankel, Jeffrey A.; Froot, Kenneth A.

Froyden, Richard T.

PD December 1986. **TI** Real Business Cycles and the Lucas Paradigm. **AU** Froyden, Richard T.; Waud, Roger N. **AA** Department of Economics, University of North Carolina. **SR** National Bureau of Economic Research Working Paper: 2109; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PR** $2.00. **JE** 131, 311, 023. **KW** Business Cycles. Lucas Paradigm. Real Factors. Monetary Factors.

AB When the Lucas paradigm is generalized to include real effects, the effects of real factors and monetary factors on the business cycle are always interrelated. Furthermore, in such models monetary factors can affect the long-run behavior or real output, contrary to the commonly held view that they cannot. Real businesscycle models and Lucas-type models are different paradigms not in the sense of real versus monetary, but in the interrelationships between real and monetary factors intrinsic to the Lucas paradigm as contrasted to the dichotomy between real and monetary factors implied by the real business cycle literature.

Fudenberg, Drew

PD May 1, 1986. **TI** Reputation and Multiple Opponents I: Identical Entrants. **AU** Fudenberg, Drew; Kreps, David M. **AA** Department of Economics, University of California at Berkeley. **SR** University of California at Berkeley Department of Economics Working Paper: 8602; Department of Economics, University of California at Berkeley, Berkeley, CA 94720. **PG** 50. **PR** $3.50. **JE** 022, 026. **KW** War of Attrition. Reputation. Predatory Pricing. Information.

AB Imagine that one player, the "incumbent," competes with several "entrants." Each entrant competes only with the incumbent, but observes play in all contests. Previous work shows that, as more and more entrants were added,

the incumbent's reputation may dominate the play of the game, if the entrants are faced in sequence. We identify conditions under which similar results obtain when the entrants are faced simultaneously, and find specifications in which adding more simultaneous entrants has a dramatically different effect. We also show that, with either sequential or simultaneous play, incumbent reputations can and do dominate play to the "informationally isolated" case in which either entrant observes only play in its own contest.

PD June 1986. **TI** On the Robustness of Equilibrium Refinements. **AU** Fudenberg, Drew; Kreps, David M.; Levine, David K. **AA** Fudenberg: University of California, Berkeley. Kreps: Stanford University. Levine: University of California, Los Angeles. **SR** Stanford Institute for Mathematical Studies in the Social Sciences (Economics Series) Technical Report: 489; Institute for Mathematical Studies in the Social Sciences, Encina Hall, Fourth Floor, Stanford University, Stanford, CA 94305. **PG** 30. **PR** $4.00. **JE** 026, 213. **KW** Noncooperative Game Theory. Nash Equilibrium. Perfection. Stability.

AB Much effort has been devoted recently to refining the notion of a Nash equilibrium, beginning with Selten's perfection concepts. The philosophy in this work is that the analyst knows things about the structure of the game then allows him to reject some of the Nash equilibria as unreasonable. We show in this paper that the work "know" in this sentence deserves emphasis. If one perturbs the game in some (somewhat) natural ways, then behavior very close to any equilibrium is a (very) refined equilibrium of the perturbed game. Hence the standard refinements are not robust to perturbations in the specification of the game, in this sense.

Fuhrer, Jeffrey C.

PD January 1986. **TI** Information Gathering and Expectation Formation under Model Uncertainty. **AA** Board of Governors of the Federal Reserve System. **SR** Board of Governors of the Federal Reserve System Special Studies Section Discussion Paper: 192; Special Studies Section Mail Stop 180, Federal Reserve Board, 20th and Constitution Avenue NW 20551. **PG** 32. **PR** No Charge. **JE** 023, 026, 211, 141, 131. **KW** Expectations. Information. Uncertainty. Priors. Learning. Loss Function. Information Costs.

AB This paper integrates model uncertainty and information gathering into a single theory of expectation formation. The method presented below devotes attention to learning, since agents learn about the nature of the true macroeconomic process, and to optimal information acquisition, as agents optimally choose whether and how much information to purchase. The main results are as follows. An optimal amount of information gathering will be calculated for given priors, information costs and loss function. The model chosen by the agent to form expectations will depend critically upon the cost of obtaining information, his prior assessments of the likelihood of competing models, the differences among the conditional distributions of the expectation variable implied by each model, and on the potential economic loss from acting based upon an "incorrect" model. A simple economic model is developed to illustrate the features of this expectation behavior.

PD January 1986. **TI** A Production Smoothing Model of Aggregate Inventory Behavior with Expectation Errors Generated by Model Uncertainty. **AA** Board of Governors of the Federal Reserve System. **SR** Board of Governors of the Federal Reserve System Special Studies Section Discussion Paper: 193; Special Studies Section Mail Stop 180, Federal Reserve Board, 20th and Constitution Avenue NW, 20551. **PG** 40. **PR** No Charge. **JE** 131, 211, 026, 141, 023. **KW** Expectations. Uncertainty. Inventories. Persistence. Production Smoothing.

AB This paper explores the ability of an augmented production smoothing model of inventory behavior to explain macroeconomic fluctuations. It differs from previous attempts to do the same in the following ways: (1) It assumes that firms making inventory decisions are uncertain about the model generating their own sales, thus expanding the possibility for rational, expectation error-induced inventory fluctuations; (2) Several representative sectors are estimated, and each is allowed differential model uncertainty; (3) The effects of aggregating the production smoothing behavior over the model-uncertain representative firms is examined. The results are encouraging. The properties of simulated aggregate production from the model are shown to deviate insignificantly from the actual properties of a measure of aggregate output.

PD January 1986. **TI** Model Uncertainty, Expectation Formation and Shock Persistence. **AA** Board of Governors of the Federal Reserve System. **SR** Board of Governors of the Federal Reserve System Special Studies Section Discussion Paper: 194; Special Studies Section Mail Stop 180, Federal Reserve Board, 20th and Constitution Avenue NW 20551. **PG** 61. **PR** No Charge. **JE** 131, 026, 141, 212, 023. **KW** Expectations. Uncertainty. Persistence. Time Series. Expectational Errors.

AB This paper will develop a model in which only expectational errors can keep the economy from its full employment level. Drawing on some of my earlier work on expectation formation, I will assume that agents are uncertain about the mechanisms generating the economic data they observe. Given a characterization of this "model uncertainty" and an objective function for the agents, it will be possible to derive optimal expectation behavior for the agents. Linking the agents' behavior into the overall economy will allow us to place restrictions on the time series process of expectational errors and thus the process describing output deviations. The theory suggests that expectation errors and thus output deviations exhibit non-trivial time series properties, possibly with long lags and high persistence. Empirical tests confirm that this model plays a significant role in explaining macroeconomic fluctuations.

PD February 1987. **TI** On the Information Content of Consumer Survey Expectations. **AA** Board of Governors of the Federal Reserve System. **SR** Board of Governors of the Federal Reserve System Special Studies Section Discussion Paper: 204; Special Studies Section Mail Stop 180, Federal Reserve Board, 20th and Constitution Avenue, NW, Washington DC 20551. **PG** 17. **PR** No

Charge. JE 225, 229, 131, 132, 133, 011, 212. KW Expectations. Survey. Consumer. Information. VAR. Animal Spirits.
AB Numerous studies have shown survey data to be inefficient forecasts with respect to information available at the time of forecast, or even with respect to their own history. However, not much attention has been given to the possibility that survey expectations, however inefficient, might contain important information about agents' actual expectations. This possibility is particularly important if such information is not contained in standard macroeconomic data bases (e.g. if surveys capture "animal spirits" expectations). This paper will use the forecast errors from a large and comprehensive forecasting model as a measure of the variation in key macroeconomic variables which is orthogonal to the macroeconomic data base. We will use simple VAR methods to determine whether the survey data would have been able to predict subsequent forecast errors made by the forecasting model, assessing the statistical reliability and quantitative importance of their predictive power. The results indicate that the survey data do contain important information; that is, the survey data can predict reliably a quantitatively significant portion of the model's forecast errors. Since the survey data consistently explain the model's consumption forecast errors, this finding is consistent with a model in which consumer spending is at least partially driven by "animal spirits" expectations which become self-fulfilling.

PD February 1987. TI Minimum Variance Pooling of Forecasts at Different Levels of Aggregation. AU Fuhrer, Jeffrey C.; Haltmaier, Jane T. AA Board of Governors of the Federal Reserve System. SR Board of Governors of the Federal Reserve System Special Studies Section Discussion Paper: 208; C/O Francis X. Diebold, Mail Stop 180, Federal Reserve Board, Washington, DC 20551. PG 6. PR No Charge. JE 211, 213, 132. KW Pooling. Aggregation. Forecast. Combined Forecasts.
AB The most common approach to combining forecasts at different levels of aggregation has been to aggregate the more disaggregated forecast, and take a weighted average of the aggregate forecasts. This paper develops a simple method for obtaining minimum variance pooled forecasts at the disaggregated level. The method has several advantages over the common approach. First, it is simple to implement. Second, it provides pooled forecasts at both the aggregated and disaggregated level. Finally, the aggregate pooled forecast replicates that which would be obtained by simply pooling two forecasts at the aggregate level, and the disaggregated forecast maintains the aggregation identity required by the problem.

Gabriel, Stuart A.

TI Forecasting Housing Construction: Lessons and Puzzles from Recent Years. AU Goodman, Jr John L.; Gabriel, Stuart A.

Gajda, J.

PD 1985. TI Model of Exchange Rates and Foreign Trade for CMEA Counties. AA University of Bonn. SR Universitat Bonn Sonderforschungsbereich 303 - Discussion Paper: B-27; Sonderforschungsbereich 303 an der Universitat Bonn, Adenauerallee 24-42, D-5300 Bonn 1, DEUTSCHLAND. PG 24. PR No Charge. JE 431, 132, 211, 111, 124. KW Exchange Rates. Trade. Eastern Europe. Macroeconometric Models. World Model.
AB This paper describes a part of the Bonn-IIASA World Model. This part of the model covers the foreign exchange of the seven Eastern European CMEA nations.

TI Economic Structural Change and Long-Term-Fluctuations in Economic Growth. AU Krelle, W.; Dobrinsky, R.; Gajda, J.; Ross, H.; Szekely, I.; Welsch, H.

Gardner, Roy

PD January 1986. TI Evolutionarily Stable Mating Behaviour. AU Gardner, Roy; Morris, Molly; Nelson, Craig. AA Gardner: University of Bonn. Morris and Nelson: University of Indiana. SR Universität Bonn Sonderforschungsbereich 303 - Discussion Paper: 156; Sonderforschungsbereich 303 an der Universitat Bonn, Adenauerallee 24-42, D-5300 Bonn 1, DEUTSCHLAND. PG 25. PR No Charge. JE 026, 841. KW Evolutionary Game Theory. Evolutionary Stable Strategy. Selection Processes. Mating. Sexual Selection. Signaling.
AB This paper studies sexual selection from the standpoint of evolutionary game theory. Selection acts on males alone, and two mating phenotypes are present. Males attract females by signalling; females are then distributed according to the configuration of signals. Payoffs vary systematically with conditions in the environment. The model chosen to study such systems is an extensive form game, since no evolutionary stable strategy need exist for the normal form game. The paper calculates the evolutionary stable strategies for both monomorphic and dimorphic male populations. Examples of such sexual selection processes are then drawn from anuran mating systems.

Garvey, Gerald T.

PD November 1986. TI The Value of Price Commitments Under Uncertainty. AA University of California at Los Angeles. SR University of California at Los Angeles Department of Economics Working Paper: 422; Department of Economics - University of California at Los Angeles, Los Angeles, CA 90024. PG 13. PR $2.50. JE 026, 611. KW Price Commitment. Option-to-Trade. Gains to Trade. Uncertainty. Incomplete Contracts.
AB We analyze the role of bargaining versus pre-commitment in supporting exchange under bilateral monopoly with hidden knowledge. The form of pre-commitment under consideration is restricted to the single-price; this paper is thus a contribution to the theory of "incomplete contracts". The particular model is probably most applicable to the procurement of an intermediate good in an environment with significant uncertainty, originating either in technology or in market conditions. The form of the model and the informational assumptions employed follow closely those in Tirole (1986). The main result is that a commitment by one of the parties, in the "initial" stage, to an appropriate price at which the other party is given the option to trade, leads to a joint welfare improvement compared to bargaining over the price in the "final" stage. Moreover, under suitable conditions, it is optimal that the party whose

valuation is "less" uncertain be the one to make the price commitment. Since both are assumed to be risk-neutral, this result is not due to insurance considerations.

Gaynor, Martin

PD February 1987. **TI** Alternative Compensation Arrangements and Productive Efficiency in Partnerships: Evidence From Medical Group Practice. **AU** Gaynor, Martin; Pauly, Mark. **AA** Gaynor: Center for Health Economics Research. Pauly: Leonard Davis Institute of Health Economics, University of Pennsylvania. **SR** National Bureau of Economic Research Working Paper: 2170; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PR** $2.00. **JE** 913, 825, 512, 513, 514, 635, 212. **KW** Health Economics. Medical Group Practice. Productive Efficiency. Specialization. HMO. Health Maintenance Organization. Productivity.

AB Although the role of the services sector in the economy has grown increasingly large, and partnerships are a prevalent form of organization in this sector, relatively little is known about the behavior and performance of these firms. In this paper an attempt is made to fill that gap by developing and testing a model of the effect of alternative compensation arrangements on productive efficiency in medical group practices. The technique employed is two-stage production frontier estimation. This technique provides direct estimates of productive efficiency and allows for differences across agents in ability or responsiveness to financial incentives. In the frontier literature productive efficiency is assumed to be exogenously given. In this paper it is determined endogenously, thus a simple econometric technique correcting for this endogeneity in estimating the production frontier is employed. In addition, the measures of efficiency themselves can be made dependent variables for explicit econometric analysis of the determinants of efficiency. Overall, the empirical results are consistent with theoretical work on internal theory of the firm, which predicts that productivity compensation schemes will work well for firms with non-joint production and observable output. These two criteria are met by medical group practices. The treatment of measured efficiency as an endogenous variable is unique and allows some interesting insights into the determinants of productive efficiency. We find that relating compensation to productivity does increase the quantity and efficiency of production, as theory has hypothesized. The number of members in a group decreases both the quantity produced and the efficiency with which that output is produced. Experience does lead to greater productivity and efficiency. Medical groups in general are measured as being no less efficient than an average manufacturing firm, but Health Maintenance Organizations are less efficient than average.

Ghemawat, Pankaj

PD January 1987. **TI** The Devolution of Declining Industries. **AU** Ghemawat, Pankaj; Nalebuff, Barry. **AA** Ghemawat: Graduate School of Business, Harvard University. Nalebuff: Department of Economics, Princeton University. **SR** Princeton Woodrow Wilson School Discussion Paper in Economics: 120; Woodrow Wilson School, Princeton University, Princeton, NJ 08544. **PG** 22. **PR** No Charge. **JE** 026, 611, 641. **KW** Excess Capacity. Exit. War of Attrition. Disinvestment. Declining Industry. Subgame Perfect Equilibrium.

AB A significant fraction of United States manufacturing output is accounted for by declining industries. In these industries, the important competitive moves pertain to disinvestment rather than investment. Capacity must be reduced in order to restore profitability. Capacity reduction is, however, a public good; each firm would like its competitors to shoulder the reduction. In a model where the production technology allows firms a dichotomous choice between producing at full capacity or exiting completely, Ghemawat and Nalebuff (1985) demonstrate that in the unique subgame-perfect equilibrium, all else equal, the largest firms are the first to exit. Here, we examine the battle over declining markets when it is possible to continuously adjust capacity. There is again a unique subgame-perfect equilibrium. The Davids cut the Goliaths down to their own size: all else equal, large firms are the first to reduce capacity, and they continue to do so until they have shrunk to the size of their formerly smaller rivals. The intuition for this result is that in the absence of economies of scale, bigger firms have a smaller marginal revenue and correspondingly a greater incentive to reduce capacity. This prediction is supported by recent empirical findings.

Gilligan, Thomas W.

PD March 12, 1987. **TI** Collective Decision-Making and Standing Committees: An Informational Rationale for Restrictive Amendment Procedures. **AU** Gilligan, Thomas W.; Krehbiel, Keith. **AA** Gilligan: California Institute of Technology. Krehbiel: Graduate School of Business, Stanford University. **SR** Caltech Social Science Working Paper: 632; Division of Humanities and Social Sciences, 228-77, California Institute of Technology, Pasadena, CA 91125. **PG** 49. **PR** No Charge. **JE** 025, 511. **KW** Collective Decision-Making. Restrictive Procedures. Committees. PolicyMaking. Congress. Legislatures. Information.

AB Specialization is a predominant feature of informed decision-making in collective bodies. In most collective decision-making bodies, the relationship between a committee and the parent body is governed by a complex array of procedures. A common feature of such procedures is that they restrict the ability of the parent body to amend committee proposals. The prevalence of procedures that restrict the ability of the parent body to amend its committees' proposals is puzzling because the procedures themselves are normally subject to parent body approval. For example, Section 1, Article IV of the United States Constitution states that "Each House may determine the rules of its proceedings," and the exercise of this right is theoretically subject to simple majority rule. Why, then, would the parent body agree to procedures that may ultimately restrict its ability to amend committee proposals? Why and under what conditions would a majority commit to a process that appears to limit its influence on legislative policy? The thesis of this paper is that restrictions on the ability of a parent body to amend committee proposals can enhance the informational role of committees. More precisely, restrictive procedures can

encourage committees to gather information and can facilitate the adoption of informed policies that are jointly beneficial to the committee and parent body. Thus, acting in its self-interest, the parent body often restricts its ability to amend committee proposals.

Glytsos, Nicholas P.

TI Theoretical and Empirical Determinants of International Labour Mobility: A Greek-German Perspective. **AU** Katseli, Louka T.; Glytsos, Nicholas P.

Goldfeld, Stephen M.

PD May 1986. **TI** The Econometrics of Rationing Models. **AU** Goldfeld, Stephen M.; Quandt, Richard E. **AA** Department of Economics, Princeton University. **SR** Princeton Econometric Research Program Memorandum: 322; Department of Economics, Princeton University, Princeton, NJ 08544. **PG** 31. **PR** $2.00. **JE** 211, 022. **KW** Rationing. Disequilibrium. Loss Function. Uncertainty.

AB We analyze two types of policy rules for the problem of a policy maker who chooses an instrument and rations so as to minimize a loss function in the face of uncertainty. Several estimating methods are derived, and their comparative properties are studied by use of sampling experiments.

Goldstein, Morris

TI A Guide to Target Zones. **AU** Frenkel, Jacob A.; Goldstein, Morris.

Gonul, Fusun F.

PD January 15, 1987. **TI** Male Youth Employment: An Estimable Dynamic Model With Layoffs. **AA** University of California at Davis. **SR** University of California at Davis Economics Department Working Paper: 286; Department of Economics, University of California at Davis, Davis, CA 95616. **PG** 36. **PR** No Charge. **JE** 821, 813, 811, 824, 826. **KW** Labor Force Participation. Reservation Wages. Job Offer. Layoff. Duration Dependence. Dismissal. Youth Employment. Job Tenure.

AB This paper presents a utility maximization model of workers who make decisions to work or not over a life time. In addition to duration dependence introduced through time-varying job offer and layoff probabilities, state dependence enters the model by the existence of a different risk while working, namely, the dismissal risk, than the one while not working, namely, the possibility of no job offers. The empirical findings are that quit and layoff rates fall with tenure and the job offer probability falls with the duration of unemployment. The impacts of changes in forcing variables on duration are such that, on average, a high mean wage, a low layoff probability of a high wage variance prolong employment and shorten nonemployment whereas high job offer probabilities shorten both durations.

Goodfriend, Marvin S.

TI Money: Theoretical Analysis of the Demand for Money. **AU** McCallum, Bennett T.; Goodfriend, Marvin S.

Goodman, John L.

PD December 1986. **TI** Economic Determinants of Household Formations and Living Arrangements. **AA** Board of Governors of the Federal Reserve System. **SR** Board of Governors of the Federal Reserve System Economic Activity Section Working Paper: 66; Economic Activity Section, Board of Governors of the Federal Reserve System, Washington, D.C. 20551. **PG** 29. **PR** No Charge. **JE** 932, 841, 921. **KW** Households. Demography. Housing. Household Formation.

AB Growth in the number of households is a key demographic determinant of economic growth. At the same time, the household growth rate is itself influenced by economic conditions. This paper reviews previous research on economic influences on household formations and living arrangements. This literature is then applied to analyzing the sharp dropoff in household formations during the early 1980s and the outlook for formations during the remainder of this decade.

PD January 1987. **TI** Forecasting Housing Construction: Lessons and Puzzles from Recent Years. **AU** Goodman, Jr John L.; Gabriel, Stuart A. **AA** Board of Governors of the Federal Reserve System. **SR** Board of Governors of the Federal Reserve System Economic Activity Section Working Paper: 69; Economic Activity Section, Board of Governors of the Federal Reserve System, Washington, D.C. 20551. **PG** 46. **PR** No Charge. **JE** 932, 132, 634, 315. **KW** Housing. Forecasting. Construction. Mortgage. Credit. Residence.

AB Housing starts projections diverged substantially from actual levels of construction activity during the early eighties. This same period was characterized by the emergence of various special factors which impinged on domestic housing construction, including changes in household choice of mortgage finance instrument, homeownership affordability, federal tax treatment, tax-exempt bond financing of mortgage credit, housing demographics, and regional mix of economic activity. This paper evaluates the effects of those special factors on residential construction activity during the first half of the decade and further assesses their implications for forecasting and modelling of housing construction over the near term.

Goulder, Lawrence H.

PD January 1987. **TI** Tax Policy, Asset Prices and Growth: A General Equilibrium Analysis. **AU** Goulder, Lawrence H.; Summers, Lawrence H. **AA** Department of Economics, Harvard University. **SR** National Bureau of Economic Research Working Paper: 2128; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PR** $2.00. **JE** 323, 522, 521, 111, 021. **KW** Tax Policy. Asset Prices. Growth. Investment Decisions. Capital Accumulation. Corporate Financial Policies. Profit. Investment Tax Credits.

AB This paper presents a multisector general equilibrium model that is capable of providing integrated assessments of the economy's short- and long-run responses to tax policy changes. The model contains an explicit treatment of firms' investment decisions according to which producers exhibit forward-looking behavior and take account of adjustment costs inherent in the installation of new capital. This permits an examination of both short-run

effects of tax policy on industry profits and asset prices as well as long-term effects on capital accumulation. The model contains considerable detail on United States industry, corporate financial policies, and the United States tax system. Simulation results reveal that the effects of tax policy differ significantly depending on whether the policy is oriented toward new or old capital. Measures like the investment tax credit stimulate investment without conferring significant windfall gains on corporate shareholders. Corporate tax rate reductions with the same revenue cost, on the other hand, yield large windfalls to shareholders while providing only a modest stimulus to investment in plant and equipment.

Gourieroux, C.

PD June 1985. **TI** Testing Unknown Linear Restrictions on Parameter Functions. **AU** Gourieroux, C.; Monfort, A.; Renault, E. **AA** Gourieroux: CEPREMAP and University of Lille I. Monfort and Renault: Institut National de la Statistique et des Etudes Economiques. **SR** CEPREMAP Discussion Paper: 8516; CEPREMAP, 142 rue du Chevaleret, 75013 Paris, FRANCE. **PG** 58. **PR** No Charge. **JE** 211. **KW** Linear Restrictions. Hypothesis Testing. Cointegration. Common Roots. ARMA Process.

AB We consider test of hypotheses of the form: Ho = (exists lambda in Rk: Ho(theta) = Ho(theta, lambda) where theta is the q-dimensional parameter of interest and ho, H are known functions of size (p,1) and (p,k). The obtained test procedures are applied to various problems: test of rational expectation, test for common roots, test for the orders of an ARMA process, test for co-integration.

TI Strong Concentration Ordering. **AU** Fourgeaud, C.; Gourieroux, C.; Pradel, J.

PD May 1986. **TI** Une Approche Geometrique Des Processus ARMA. **AA** CEPREMAP. **SR** CEPREMAP Discussion Paper: 8611; CEPREMAP, 142 rue du Chevaleret, 75013 Paris, FRANCE. **PG** 32. **PR** No Charge. **JE** 211. **KW** Wold Decomposition. ARMA Process. Correlation. Identification. Stationary Process.

AB A number of interesting properties of stationary processes, in particular the Wold decomposition, can be derived using a geometrical approach. In this paper we introduce the notions of recent past and old past by means of well chosen vector spaces. A geometrical study of these spaces and of their correlation allows the derivation of several classical characterisations of the orders p and q of an ARMA process.

TI Identification and Consistent Estimation of Multivariate Linear Models with Rational Expectations of Current Variables. **AU** Broze, L.; Gourieroux; Szafarz, A.

PD January 1987. **TI** Testing for Common Roots. **AU** Gourieroux, G.; Monfort, A.; Renault, E. **AA** Gourieroux: Lille I University. Monfort: INSEE. Renault: Paris IX University. **SR** Unite de Recherche Document de Travail ENSAE/INSEE: 8701; INSEE, Unite de Recherche, 18 Bd. Adolphe Pinard, 75675 Paris cedex 14, FRANCE. **PG** 32. **PR** No Charge. **JE** 211. **KW** Common Roots. Generalized Wald Tests. Bezout Identity. Hypothesis Testing.

AB In this paper we propose a simple test procedure for testing the existence of common roots in lag polynomials. We first show, by using a generalised Bezout property that this hypothesis can be put under a "mixed" form which is linear with respect to the auxiliary parameters. It follows that the test procedures can be implemented only by using regressions packages.

Gray, Peter

PD January 1987. **TI** Multiple Unit Oral Double Auction. **AU** Gray, Peter; Plott, Charles R. **AA** California Institute of Technology. **SR** Caltech Social Science Working Paper: Division of Humanities and Social Sciences, 228-77, California Institute of Technology, Pasadena, CA 91125. **PG** 11. **PR** No Charge. **JE** 022, 026, 611. **KW** Auction. Experiment.

AB The note outlines institutional features of an oral double auction (ODA) that permit multiple unit or "block" trades. The rules governing the multiple unit oral double auction (MUODA) are stated. The results of markets that use the rules are reported as a demonstration that the traditional convergence property remains with the introduction of the MUODA process.

Greenberg, Joseph

PD November 1986. **TI** Perfect Equilibria in Repeated Games: The Unique Maximal Stationary Stable Standard of Behavior. **AA** University of Haifa. **SR** Stanford Institute for Mathematical Studies in the Social Sciences (Economic Series) Technical Report: 495; Institute for Mathematical Studies in the Social Sciences, Encina Hall, Fourth Floor, Stanford University, Stanford, CA 94305. **PG** 25. **PR** $4.00. **JE** 026. **KW** Repeated Games. Perfect Equilibria. Standard of Behavior. Coalitions. Nash Equilibria.

AB I prove that every stationary stable standard of behavior, for the inducement correspondence that is implicit in the description of an infinitely repeated game, is a subset of the set of Perfect-Equilibria Paths (PEP). Moreover, the set of PEP itself is a stationary stable standard of behavior. Hence, stability refines perfection. I also introduce a new concept, Coalitional-PEP (CPEP), which is immuned against deviations by any coalition, and not only by single individuals. Clearly, CPEP provides a further refinement of perfection.

Greene, Mark N.

TI Reducing Uncertainty in Short-Term Projections: Linkage of Monthly and Quarterly Models. **AU** Corrado, Carol A.; Greene, Mark N.

Greenwald, Bruce

PD December 1986. **TI** Imperfect Information, Credit Markets and Unemployment. **AU** Greenwald, Bruce C.; Stiglitz, Joseph E. **AA** Greenwald: Bell Communications Research. Stiglitz: Princeton University. **SR** National Bureau of Economic Research Working Paper: 2093; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PR** $2.00. **JE** 131, 134, 026, 023, 313, 824. **KW** Imperfect Information. Capital Markets. Labor Markets. Unemployment. Business cycles.

AB This paper describes how imperfect information in both capital and labor markets can, in a context of maximising firms and perfectly flexible prices and wages, give rise to cyclical variations in unemployment whose character closely resembles that of observed business cycles.

PD February 1987. **TI** Keynesian, New Keynesian and New Classical Economics. **AU** Greenwald, Bruce; Stiglitz, Joseph E. **AA** Greenwald: Bell Communications Research. Stiglitz: Department of Economics, Princeton University. **SR** National Bureau of Economic Research Working Paper: 2160; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PR** $2.00. **JE** 023, 311, 321. **KW** Keynesian Economics. New Classical Economics. Imperfect Information. Business Cycles. Rigid Prices. Monetary Policy. Fiscal Policy. Efficiency Wages. Credit Rationing.
AB Much of the new theory of macro-economics that has been built upon micro-economic models of imperfect information leads to conclusions which are surprisingly close in spirit to Keynes' original analysis. This paper summarizes the macro-economic implications of information-based models of efficiency wages, credit-rationing and the breakdown of financial markets for equity-type securities. It shows how these models lead to behavior by firms and interactions among economic agents that account for many of the phenomena identified by Keynes in qualitative terms which were largely lost in subsequent formalizations of the Keynesian model. These imperfect information macro-models provide consistent theoretical explanations in the Keynesian spirit in unemployment, investment concentrated business cycles, rigid prices and the effectiveness of monetary and fiscal policy interventions. In doing so, they reconcile macro and micro-economic analysis in a way that has so far been achieved neither by the traditional Keynesians, who assumed away the micro-dimension of the problem, nor by the new classical economists who assumed away the macro-dimension of the problem.

PD March 1987. **TI** Money, Imperfect Information and Economic Fluctuations. **AU** Greenwald, Bruce; Stiglitz, Joseph E. **AA** Greenwald: Bell Communications Research. Stiglitz: Princeton University. **SR** National Bureau of Economic Research Working Paper: 2188; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PR** $2.00. **JE** 131, 311, 133, 134, 023. **KW** Financial Markets. Credit Rationing. Business Cycles. Monetary Policy. Demand Fluctuations. Interest Rates. Price Rigidities.
AB This paper summarizes the macro-economic and, in particular, monetary and financial market implications of recent developments in the micro-economic theory of imperfect information. These micro-economic models which lead to credit-rationing on the one hand and limitations in the availability of equity type financing on the other can account for a wide range of observed business cycle and monetary phenomena. These include (a) unemployment, (b) the existence of Keynesian-type multiples, (c) the observed lack of production smoothing in response to cyclical fluctuations in demand, (d) the impact of monetary policy on business activity despite the absence of significant changes in real interest rates, and (e) price rigidities which arise from rational firm decisions (not as an a priori assumption).

Greenwood, Jeremy

PD April 1986. **TI** An Investigation in the Theory of Foreign Exchange Controls. **AU** Greenwood, Jeremy; Kimbrough, Kent P. **AA** Kimbrough: Department of Economics, Duke University. Greenwood: University of Western Ontario. **SR** Duke Working Paper in Economics: 86-13; Working Papers Series, Department of Economics, Duke University, Durham, NC 27706. **PG** 30. **PR** No Charge. **JE** 431, 023, 421, 422, 411. **KW** Exchange Rates. Exchange Controls. Cash-In-Advance Model. Trade Balance. Balance of Payments. Import Quota. Terms of Trade.
AB A choice-theoretic cash-in-advance model is constructed to examine foreign exchange controls. While foreign exchange controls improve the trade balance and the balance of payments (or exchange rate) they reduce welfare for a distortion-free small open economy. This is because foreign exchange controls essentially place a quota on imports. Shocks to the terms of trade are shown to be transmitted negatively to the domestic economy when exchange controls are in effect. Devaluations are found not to have real effects. Finally, it is argued that foreign exchange controls are not the optimal policy for attaining trade balance objectives.

PD June 1986. **TI** Foreign Exchange Controls in a Black Market Economy. **AU** Greenwood, Jeremy; Kimbrough, Kent. **AA** Kimbrough: Department of Economics, Duke University. Greenwood: University of Western Ontario. **SR** Duke Working Paper in Economics: 86-18; Working Papers Series, Department of Economics, Duke University, Durham, NC 27706. **PG** 25. **PR** No Charge. **JE** 431, 421, 422, 916. **KW** Foreign Exchange Controls. Black Market. Cash-In-Advance Model. Illegal Activity.
AB An investigation of the impact of foreign exchange controls in a black market economy is undertaken within the context of a choice-theoretic cash-in-advance general equilibrium model. While such controls may improve a 'distortion-free' economy's trade balance and balance of payments they are found to increase the domestic price of imports and lower the country's welfare. The ramifications of black market for economic welfare turn out to be ambiguous, depending crucially on the government's reaction to the leakage of foreign exchange into the economy via illegal activity.

Grossman, Gene M.

PD January 1987. **TI** Infant-Industry Protection Reconsidered: The Case of Informational Barriers to Entry. **AU** Grossman, Gene M.; Horn, Henrik. **AA** Grossman: Woodrow Wilson School of Public and International Affairs, Princeton University. Horn: Institute for International Economic Studies, University of Stockholm. **SR** Princeton Woodrow Wilson School Discussion Paper in Economics: 123; Woodrow Wilson School, Princeton University, Princeton, NJ 08544. **PG** 24. **PR** No Charge. **JE** 422, 611, 112, 421, 411. **KW** Infant Industry Protection. Tariffs. Reputation. Barriers to Entry. Adverse Selection. Moral Hazard.
AB In industries with imperfect consumer information,

the lack of a reputation puts latecomers at a competitive disadvantage vis-a-vis established firms. We consider whether the existence of such informational barriers to entry provides a valid reason for temporarily protecting infant producers of experience goods and services. Our model incorporates both moral hazard in an individual firm's choice of quality and adverse selection among potential entrants into the industry. We find that infant-industry protection often exacerbates the welfare loss associated with these market imperfections.

PD February 1987. **TI** Infant-Industry Protection Reconsidered: The Case of Informational Barriers to Entry. **AU** Grossman, Gene M.; Horn, Henrik. **AA** Grossman: Woodrow Wilson School, Princeton University. Horn: Institute for International Economic Studies, University of Stockholm. **SR** National Bureau of Economic Research Working Paper: 2159; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PR** $2.00. **JE** 411, 611, 421, 422. **KW** Trade Barriers. Infant Industries. Moral Hazard. Informational Barriers. Reputation.

AB In industries with imperfect consumer information, the lack of a reputation puts latecomers at a competitive disadvantage vis-a-vis established firms. We consider whether the existence of such informational barriers to entry provides a valid reason for temporarily protecting infant producers of experience goods and services. Our model incorporates both moral hazard in an individual firm's choice of quality and adverse selection among potential entrants into the industry. We find that infant-industry protection often exacerbates the welfare loss associated with these market imperfections.

Grossman, Sanford J.

PD February 1987. **TI** One Share/One Vote and the Market for Corporate Control. **AU** Grossman, Sanford J.; Hart, Oliver D. **AA** Grossman: Department of Economics, Princeton University. Hart: Department of Economics, Massachusetts Institute of Technology. **SR** Massachusetts Institute of Technology Department of Economics Working Paper: 440; Department of Economics, Massachusetts Institute of Technology Cambridge, MA 02139. **PG** 57. **PR** No Charge. **JE** 510, 521, 025, 026. **KW** Corporate Control. Corporation. Firm. Proportional Representation. Shareholders.

AB A corporation's securities provide the holder with particular claims on the firm's income stream and particular voting rights. These securities can be designed in various ways: one share of a particular class may have a claim to votes which is disproportionately larger or smaller than its claim to income. In this paper we analyze some of the forces which make it desirable to set up the corporation so that all securities have the same proportion of votes as their claim to income ("one share/one vote").

Guesnerie, Roger

PD 1986. **TI** Adverse Selection and Moral Hazard with Risk-Neutral Agent. **AU** Guesnerie, Roger; Picard, Pierre; Rey, Patrick. **AA** Guesnerie: EHESS. Picard: CEPREMAP. Rey: ENSAE. **SR** CEPREMAP Discussion Paper: 8624; CEPREMAP, 142 rue du Chevaleret, 75013 Paris, FRANCE. **PG** 22. **PR** $20.00 FF. **JE** 025, 026, 022. **KW** Adverse Selection. Moral Hazard. Contracts. Risk Neutrality. Principal-Agent Problem. Incentive Compatible Mechanism.

AB This paper focuses on the design of binding contracts in a principal-agent relationship where "hidden knowledge" and "hidden actions" coexist. Two different notions of implementability are defined: implementation via a family of reward schedules or via a single schedule. A number of sufficient conditions are stated for implementability of pure adverse selection incentive compatible mechanisms, under noisy observation of the agent's actions.

PD December 1986. **TI** Adverse Selection and Moral Hazard with Risk Neutral Agent. **AU** Guesnerie, Roger; Picard, Pierre; Rey, Patrick. **AA** Guesnerie: EHESS. Picard: CEPREMAP. Rey: INSEE. **SR** Unite de Recherche Document de Travail ENSAE/INSEE: 8613; INSEE, Unite de Recherche, 18 Bd. Adolphe Pinard, 75675 Paris cedex 14, FRANCE. **PG** 26. **PR** No Charge. **JE** 026, 022, 025. **KW** Principal Agent. Adverse Selection. Moral Hazard. Risk Neutrality. Optimal Contracts. Agency Problem. Incentives.

AB This papers surveys some recent developments of the literature on adverse selection and moral hazard in agency problems. It is concerned with the case where both aspects coexist and both agents are (income) risk-neutral. It shows that in most cases, the moral hazard aspect does not entail welfare losses compared to the pure adverse selection case, and analyses different ways (using a single contract or a family of contracts) of deriving the optimal contracts.

Hall, Bronwyn H.

PD March 1987. **TI** The Effect of Takeover Activity on Corporate Research and Development. **AA** National Bureau of Economic Research and Stanford University. **SR** National Bureau of Economic Research Working Paper: 2191; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PR** $2.00. **JE** 621, 611, 522, 514. **KW** Takeovers. R&D. Research and Development. Technical Progress. Corporate Mergers. Acquisitions.

AB It is widely thought that increases in corporate mergers and acquisitions of the sort which the United States has experienced in the recent past lead to a reduction in such longterm investment activities as R&D because of a shortened horizon on the part of managers. This paper uses a newly created dataset containing all acquisitions of publicly traded firms in the manufacturing sector in the last ten years to answer some basic questions which pertain to this issue. I find that the firms involved in acquisitions and mergers where both partners are in the manufacturing sector have roughly the same pattern of R&D spending as the sector as a whole and that the acquisition itself does not cause a reduction in R&D activity on the part of these firms. Moreover, the R&D capital thus acquired is valued more highly by the acquiring firm than by the stock market. On the other hand, I also find that the substantial increase in the number and size of acquisitions made by privately held firms in the eighties is concentrated primarily on firms with low R&D intensity which also are in non-R&D intensive industries. Because the pattern of low

investment in R&D is longstanding, and because the firms taken over have less rather than more R&D capital than the industry as a whole, it seems unlikely that the recent increase in takeover activity has had a significantly negative effect on R&D spending in these industries.

Hallett, A. J. Hughes

PD January 1987. **TI** Macroeconomic Policy Design With Incomplete Information: A New Argument for Coordinating Economic Policies. **AA** Department of Economics, University of Newcastle Upon Tyne. **SR** Centre for Economic Policy Research Discussion Paper: 151; Centre for Economic Policy Research, 6 Duke of York Street, London SW1Y 6LA, ENGLAND. **PG** 60. **PR** 1 pound ($2.00) individuals; 1.50 pounds ($3.00) companies, libraries, institutions. **JE** 122, 133, 423, 023, 026, 421, 431. **KW** Policy Coordination. Robustness. Information Errors. Policy Regimes. Policy Evaluation. Incomplete Information.

AB The harshest criticism of econometrically based policy evaluation is undoubtedly the sensitivity of its conclusions to assumptions concerning the information available to policy-makers or to misspecification of the econometric models used in the evaluation. Economists appear to have accepted this criticism without examining how far it is justified and to what extent it can be overcome. These sensitivities can be broadly classified into those due to information errors (non-controllable shocks external to the economy, as modelled) and those due to modelling errors (errors caused by differences between the true structure of the economy and the specification of the econometric model). This paper considers the former case and studies the sensitivity of macroeconomic policy design to information errors in a multi-country setting. It argues that a policy regime of cooperation produces more robust policy designs than does non-cooperative policy-making, particularly when policy-makers exploit their freedom to revise their decisions in the light of past errors. The investigation involves some theoretical analysis and numerical sensitivity analysis using two different empirical models (extending work done earlier with Andries Brandsma) and complements a study by Hughes Hallett and Holtham on robustness and model errors (presented at an International Economic Association conference, organized by CEPR on Global Macroeconomics: Policy Conflict and Cooperation, February 1987).

Haltiwanger, John

PD February 1987. **TI** Responders Versus Nonresponders: A New Perspective on Heterogeneity. **AU** Haltiwanger, John; Waldman, Michael. **AA** Haltiwanger: Department of Political Economy, The Johns Hopkins University. Waldman: Department of Economics, University of California at Los Angeles. **SR** University of California at Los Angeles Department of Economics Working Paper: 436; Department of Economics - University of California at Los Angeles Los Angeles, CA 90024. **PR** $2.50. **JE** 022. **KW** Non-Market Clearing Wages. Network Externalities. First Mover Advantage. Near Rationality. Congestion. Synergism. Reputation.

AB This paper considers the implications of a particular type of heterogeneity - one which characterizes a large number of economic environments, but which has not received any systematic treatment in the literature. We refer to this heterogeneity as responders versus nonresponders. In this paper we provide a general method of analysis for this heterogeneity, and then show how this general method of analysis can be used to understand a wide variety of economic environments. Particular applications considered include: (i) the recent work on the evolution of market outcomes given network externalities; (ii) recent research on heterogeneity in information processing abilities; and (iii) work on reputation in models exhibiting the last period problem.

Haltmaier, Jane T.

TI Minimum Variance Pooling of Forecasts at Different Levels of Aggregation. **AU** Fuhrer, Jeffrey C.; Haltmaier, Jane T.

Hamermesh, Daniel S.

PD January 1987. **TI** Why Do Fixed-Effects Models Perform So Poorly? The Case of Academic Salaries. **AA** Department of Economics, Michigan State University. **SR** National Bureau of Economic Research Working Paper: 2135; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PR** $2.00. **JE** 211, 212, 912. **KW** Fixed-Effects Models. Academic Salaries. Measurement Error. Panel Data. Scholars.

AB A large and growing line of research has used longitudinal data to eliminate unobservable individual effects that may bias cross-section parameter estimates. The resulting estimates, though unbiased, are generally quite imprecise. This study shows that the imprecision can arise from the measurement error that commonly exists in the data used to represent the dependent variable in these studies. The example of economists' salaries, which are administrative data free of measurement error, demonstrates that estimates based on changes in longitudinal data can be precise. The results indicate the importance of improving the measurement of the variables to which the increasingly high-powered techniques designed to analyze panel data are applied. The estimates also indicate that the payoff to citations to scholarly work is not an artifact of unmeasured individual effects that could be biasing previous estimates of the determinants of academic salaries.

Hansen, Lars Peter

TI Estimating Models with Intertemporal Substitution Using Aggregate Time Series Data. **AU** Eichenbaum, Martin; Hansen, Lars Peter.

Hart, Oliver D.

PD January 1987. **TI** Capital Structure as a Control Mechanism in Corporations. **AA** Massachusetts Institute of Technology. **SR** Massachusetts Institute of Technology Department of Economics Working Paper: 441; Department of Economics, Massachusetts Institute of Technology, Cambridge, MA 02139. **PG** 15. **PR** No Charge. **JE** 510, 521. **KW** Corporation. Firm. Capital Structure. Corporate Control.

AB Viewing the corporation in control terms seems a useful, but so far relatively unexplored, approach to

understanding capital structure. The approach holds out the hope of explaining both the types of securities a firm issues and the allocation of voting rights across these securities.

TI One Share/One Vote and the Market for Corporate Control. **AU** Grossman, Sanford J.; Hart, Oliver D.

Hausman, Jerry A.

PD March 1986. **TI** Efficient Estimation and Identification of Simultaneous Equations Models with Covariance Restrictions. **AU** Hausman, Jerry A.; Newey, Whitney K.; Taylor, William E. **AA** Hausman: Department of Economics, Massachusetts Institute of Technology. Newey: Department of Economics, Princeton University. Taylor: Bell Communications Research. **SR** Princeton Econometric Research Program Memorandum: 329; Department of Economics, Princeton University, Princeton, NJ 08544. **PG** 58. **PR** $2.00. **JE** 210, 211, 212. **KW** Simultaneous Equations. Covariance Restrictions. Instrumental Variables. Efficiency. Identification. FIML.

AB In this paper we consider estimation of simultaneous equations models with covariance restrictions. We first consider FIML estimation and extend Hausman's (1975) instrumental variables interpretation of the FIML estimator to the covariance restrictions case. We show that, in addition to the predetermined variables from the reduced form, FIML also uses estimated residuals as instruments for the equations with which they are uncorrelated. A slight variation on the instrumental variables theme yields a simple, efficient alternative to FIML. Here we augment the original equation system by additional equations that are implied by the covariance restrictions. We show that when these additional equations are linearized around an initial consistent estimator and three-stage least squares is performed on the original equation system together with the linearized equations implied by the covariance restrictions, an asymptotically efficient estimator is obtained. We also present a relatively simple method of obtaining an initial consistent estimator when the covariance restrictions are needed for identification. This estimator also makes use of additional equations that are implied by the covariance restrictions. In the final section of the paper we consider identification from the point of view of the moment restrictions that are implied by instrument-residual orthogonality and the covariance restrictions. We show that the assignment condition of Hausman and Taylor (1983) provides necessary conditions for the identification of the structural parameters.

PD August 1, 1986. **TI** Specifying and Testing Econometric Models for Rank-Ordered Data with an Application to the Demand for Mobile and Portable Telephones. **AU** Hausman, Jerry A.; Ruud, Paul A. **AA** Hausman: Massachusetts Institute of Technology. Ruud: Department of Economics, University of California at Berkeley. **SR** University of California at Berkeley Department of Economics Working Paper: 8605; Department of Economics, University of California at Berkeley, Berkeley, CA 94720. **PG** 48. **PR** $3.50. **JE** 212, 211, 921. **KW** Logit. Rank Orderings. Preferences. Telephone Demand. Specification Tests. M-Estimator.

AB The rank-ordered logit model is used as the basic specification for rank-ordered consumer choice data. Two specification tests are proposed for this specification. The first is a Hausman specification test for the independence from irrelevant alternatives hypothesis. The second test examines the possibility that the estimates of equivalent prices are consistent. Two alternative estimators are proposed. One generalizes the rank-ordered logit specification to allow for a form of heteroskedasticity that permits top ranked choices to be more precisely ranked than bottom ranked choices. The other estimator is an application of a weighted M-estimator that yields consistent equivalent price estimators despite any misspecification of distribution in the rank-ordered logit model.

PD December 1986. **TI** Household Behavior and the Tax Reform Act of 1986. **AU** Hausman, Jerry A.; Poterba, James M. **AA** Massachusetts Institute of Technology and NBER. **SR** Massachusetts Institute of Technology Department of Economics Working Paper: 437; Department of Economics, Massachusetts Institute of Technology Cambridge, MA 02139. **PG** 32. **PR** No Charge. **JE** 323, 321. **KW** Taxes. Labor Supply. Tax Rates. Savings. Tax Incentives. Income Tax.

AB This paper evaluates the effects of the 1986 Tax Reform Act on household labor supply and savings. It describes the tax bill's effects on incentives to work and to save, and uses recent econometric estimates of labor supply and savings elasticities to describe the reform's impact on household behavior. Two factors lead us to conclude that the new law will have small aggregate effects. First, most households experience only small changes in their marginal tax rates. Forty-one percent of the taxpaying population will face marginal tax rates as high, or higher, under the new law as under the previous tax code. Only eleven percent of taxpayers receive marginal tax rate reductions of ten percentage points or more. Second, plausible estimates of both the labor supply and savings elasticities suggest that even for those households that receive rate reductions, behavioral changes will be small. Our analysis suggests that the tax reform will increase labor supply by about one percent, and slightly reduce private savings.

PD January 1987. **TI** Household Behavior and the Tax Reform Act of 1986. **AU** Hausman, Jerry A.; Poterba, James M. **AA** Department of Economics, Massachusetts Institute Of Technology. **SR** National Bureau of Economic Research Working Paper: 2120; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PR** $2.00. **JE** 323, 312, 824. **KW** Tax Reform Act. Household Behavior. Savings. Labor Supply.

AB This paper evaluates the effects of the 1986 Tax Reform Act on household labor supply and savings. It describes the tax bill's effects on incentives to work and to save, and uses recent econometric estimates of labor supply and savings elasticities to describe the reform's impact on household behavior. Two factors lead us to conclude that the new law will have small aggregate effects. First, most households experience only small changes in their marginal tax rates. Forty-one percent of the taxpaying population will face marginal tax rates as high, or higher, under the new law as under the previous tax code. Only eleven

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percent of taxpayers receive marginal tax rate reductions of ten percentage points or more. Second, plausible estimates of both the labor supply and savings elasticities suggest that even for those households that receive rate reductions, behavioral changes will be small. Our analysis suggests that the tax reform will increase labor supply by about one percent, and slightly reduce private savings.

Heckman, James J.

PD May 1986. **TI** The Importance of Bundling in a Gorman-Lancaster Model of Earnings. **AU** Heckman, James J.; Scheinkman, Jose. **AA** University of Chicago and Program in Quantitative Economic Analysis/NORC. **SR** Economics Research Center/NORC Discussion Paper: 86-16; Economics Research Center/NORC, 6030 S. Ellis, Chicago, IL 60637. **PG** 23. **PR** $2.00; send requests to Librarian, NORC. **JE** 820, 810, 841. **KW** Bundling. Earnings. Labor Market. Labor Skills. Wages.

AB The idea that the labor market earnings of individuals can be decomposed into payments to separate productive attributes has an enduring appeal in economics. Assuming that demographic groups differ only in their endowments of productive characteristics, it is possible to rationalize observed demographic earnings differentials without invoking the arguments that characteristics specific to a particular demographic group are direct objects of employer demand. By aggregating skills over all demographic groups, it is possible to produce a theory of the market determination of the prices of skills held in different amounts by different demographic groups. This paper considers conditions under which characteristics are uniformly priced across sectors of a multisector economy. We present empirical evidence that rejects uniform pricing of characteristics as a description of the United States labor market. Bundling may account for this evidence but other hypotheses do as well.

Helliwell, John F.

TI A Translog Model of Aggregate Production and Variable Factor Utilization. **AU** Fisher, Timothy C. G.; Chung, Alan; Helliwell, John F.

Hellwig, Martin

PD December 1986. **TI** A Note on the Relation Between Discrete and Continuous Games of Perfect Information. **AU** Hellwig, Martin; Leininger, Wolfgang. **AA** University of Bonn. **SR** Universitat Bonn Sonderforschungsbereich 303 - Discussion Paper: A-92; Sonderforschungsbereich 303 an der Universitat Bonn, Adenauerallee 24-42, D-5300 Bonn 1, DEUTSCHLAND. **PG** 24. **PR** No Charge. **JE** 026. **KW** Perfect Information. Continuous Strategy. Game Theory. Extensive Form Games. Continuous Games.

AB Most of the literature on extensive-form noncooperative games assumes that the players have finite strategy sets (see, e. g., Selten (1975) or Kreps and Wilson (1982)). In applications however the economic context often suggests a natural specification of strategies as continuous variables. Even if one feels that the relevant strategy sets are discrete, there may be no particular discretization that imposes itself as being the most natural. In price-setting games for example, one may wish to regard prices as continuous variables, or one may wish to regard prices as discrete variables without determining a priori whether the "smallest unit" is a pound or a penny. In these cases, the application of available concepts and results may require that the analysis be restricted to a fixed discretized version of the game in which one is interested. However, the results should then be reasonably insensitive to the particular discretization that has been chosen. For example, if the discretization is already very fine, then a further refinement should not make much of a difference and the equilibria of the discrete game should be similar to equilibria of the underlying continuous game. For normal-form games with compact metric strategy spaces and continuous payoff functions, the preceding desideratum is unproblematic. In this case any sequence of Nash equilibria of successively finer discretizations of the game has a convergent subsequence; moreover if the discretizations approximate the continuous game, then any limit point of a sequence of Nash equilibria of the discrete games will be a Nash equilibrium of the continuous game. For extensive-form games the difficulty arises that the strategies are functions which indicate how each player's behaviour depends on the information he has about the history of the game. In general then the convergence behaviour of a given sequence of equilibria, i.e. a given sequence of constellations of such functions, is unclear. To be sure, the corresponding sequence of equilibrium paths will have a convergent subsequence. However, it is not in general clear that the limit path is an equilibrium path of the continuous extensive-form game. Even if the limit path is an equilibrium path of the continuous game, it is not clear what is the relation between the equilibrium strategies in the continuous game and the equilibrium strategies in the finite approximations of the continuous game. In the following we resolve these issues for the special case of games of perfect information.

Hendershott, Patric H.

TI Tax Policy and Stock Prices. **AU** Downs, Thomas; Hendershott, Patric H.

PD December 1986. **TI** Real Estate and the Tax Reform Act of 1986. **AU** Hendershott, Patric H.; Follain, James R.; Ling, David C. **AA** Hendershott: The Ohio State University. Follain: The Office of Real Estate Research, University of Illinois, Urbana-Champaign. Ling: Cox School of Business, Southern Methodist University. **SR** National Bureau of Economic Research Working Paper: 2098; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PR** $2.00. **JE** 323, 932, 717. **KW** Real Estate. Tax Reform. Housing. Rentals. Residential Property.

AB In contrast to the conventional wisdom, real estate activity in the aggregate is not disfavored by the 1986 Tax Act. Within the broad aggregate, however, widely different impacts are to be expected. Regular rental and commercial activity will be slightly disfavored, while historic and old rehabilitation activity will be greatly disfavored. In contrast, owner-occupied housing, far and away the largest component of real estate, is favored, both directly by an interest rate decline and indirectly owing to the increase in rents. Low-income rental housing may be the most favored of all real estate activities. The rent increase for residential properties will be 10 to 15 percent

with our assumption of a percentage point decline in interest rates. For commercial properties, the expected rent increase is 5 to 10 percent. The market value decline, which will be greater the longer and further investors think rents will be below the new equilibrium, is unlikely to exceed 4 percent in fast growth markets, even if substantial excess capacity currently exists. In no-growth markets with substantial excess capacity, market values could decline by as much as 8 percent from already depressed levels. Average housing costs will decrease slightly for households with incomes below about $60,000, but increase by 5 percent for those with incomes above twice this level. With the projected increase in rents, homeownership should rise for all income classes, but especially for those with income under $60,000. The aggregate home ownership rate is projected to increase by three percentage points in the long run in response to the Tax Act. The new passive loss limitations are likely to lower significantly the values of recent loss-motivated partnership deals and of properties in areas where the economics have turned sour (vacancy rates have risen sharply). The limitations should have little impact on new construction and market rents, however. Reduced depreciation write-offs, lower interest rates, and higher rents all act to lower expected passive losses. Moreover, financing can be restructured to include equity-kickers or less debt generally at little loss of value.

Hendricks, Kenneth

PD December 1986. **TI** Information, Returns, and Bidding Behavior in OCS Auctions: 1954-1969. **AU** Hendricks, Kenneth; Porter, Robert H.; Boudreau, Bryan. **AA** Hendricks: State University of New York at Stony Brook and National Fellow, Hoover Institution. Porter: State University of New York at Stony Brook. Boudreau: State University of New York at Stony Brook. **SR** Stanford Hoover Institute Working Paper in Economics: E-86-71; Domestic Studies Program Working Paper Series, Hoover Institution, Stanford University, Stanford, CA 94305. **PG** 50. **PR** No Charge. **JE** 026, 612, 632, 720. **KW** Auction. Bids. Asymmetric Information. "Winner's Curse." Nash Equilibrium. First-Price Sealed Bid Acution. Outer Continental Shelf Leases. Outer Continental Shelf.

AB This paper examines federal auctions for leases on the Outer Continental Shelf (O.C.S.) in the light of the predictions of the first-price, sealed bid, common values model of auctions. We find that the data strongly support the model for auctions in which one bidder is better informed than the other bidders. The evidence for auctions in which bidders have noisy but qualitatively similar information is less conclusive, but is consistent with a model in which each bidder does not know either the actual or potential number of bidders on a lease.

PD December 1986. **TI** Equilibrium in Preemption Games With Complete Information. **AU** Hendricks, Kenneth; Wilson, Charles. **AA** Hendricks: State University of New York at Stony Brook and National Fellow, Hoover Institution. Wilson: New York University. **SR** Stanford Hoover Institute Working Paper in Economics: E-86-72; Domestic Studies Program Working Paper Series, Hoover Institution, Stanford University, Stanford, CA 94305. **PG** 41. **PR** No Charge. **JE** 026, 611. **KW** Preemption. Nash Equilibrium. Games of Timing. Complete Information. Continuous Time.

AB The paper provides a complete characterization of the equilibria for a class of "preemption" games when time is continuous and information is complete. It allows for asymmetric payoffs and an arbitrary time horizon. It extends the analyses of earlier authors to include a class of games in which players move according to a continuous distribution over some interval of the game.

Hendry, David F.

TI An Analogue Model of Phase-Averaging Procedures. **AU** Campos, Julia; Ericsson, Neil R.; Hendry, David F.

Henry, S. G. B.

TI Public and Private Sector Pay: Some Further Results. **AU** Foster, N.; Henry, S. G. B.; Trinder, C.

Heuser, Uwe Jean

PD 1986. **TI** Analyse der Organisationsstrukturanderung der Bayer AG zum 1.1.1984. **AA** University of Bonn. **SR** Universitat Bonn Sonderforschungsbereich 303 - Discussion Paper: D-2; Sonderforschungsbereich 303 an der Universitat Bonn, Adenaueralle 24-42, D-5300 Bonn 1, DEUTSCHLAND. **PG** 72. **PR** No Charge. **JE** 513, 514, 511.

Hilke, John C.

PD February 1987. **TI** Free Trading or Free Riding: An Examination of the Theories and Available Empirical Evidence on Gray Market Imports. **AA** Bureau of Economics, Federal Trade Commission. **SR** Federal Trade Commission Bureau of Economics Working Paper: 150; Bureau of Economics, Federal Trade Commission, 6th and Pennsylvania Avenue NW, Washington, D.C. 20580. **PG** 32. **PR** No Charge. **JE** 421, 422, 431, 531, 611, 612, 633, 921. **KW** Imports. Gray market. Trade. Free Riding. Vertical Restraints. Parallel Imports. Exclusive Territories.

AB The purpose of this paper is to present the competing explanations for gray market imports and then examine whether available empirical data generally supports the free-rider hypothesis. If so, one or another of the proposed across-the-board government restrictions may be appropriate. If not, then either no action is appropriate or only more narrowly drawn remedies are reasonable. Evidence suggests that no single theory explains all or even most gray market imports.

Hoffmeister, J. Ronald

TI The Micromechanics of the Federal Funds Market: Implications for Day of the Week Effects. **AU** Spindt, Paul A.; Hoffmeister, J. Ronald.

Hofmeister, M.

PD February 1987. **TI** Spectral Radius and Degree Sequence. **AA** University of Cologne. **SR** Universitat Bonn Sonderforschungsbereich 303 - Discussion Paper: 87/39; Sonderforschungsbereich 303 an der Universitat Bonn, Adenauerallee 24-42, D-5300 Bonn 1, DEUTSCHLAND. **PG** 11. **PR** No Charge. **JE** 213. **KW** Nonregular Graph. P-Mean. Spectral Radius.

Spectral Mean Characteristic.
AB For a nonregular graph there is exactly one value of p such that the p-mean of its degree sequence is equal to the spectral radius. We try to investigate the structural content of this so-called spectral mean characteristic; in particular, we characterize the connected graphs of spectral mean characteristic 2.

Holly, Alberto

PD November 1986. **TI** Tensor Components of Multivariate Hermite Polynomials and Moments of a Multivariate Normal Distribution. **AA** University of Lausanne. **SR** Universite de Lausanne Cahiers de Recherches Economiques: 8701; Departement d'econometrie et d'economie politique, Universite de Lausanne BFSH - Dorigny, CH-1015 Lausanne/SWITZERLAND. **PG** 16. **PR** No Charge. **JE** 211, 213. **KW** Asymptotic Expansions. Hermite Polynomials. Multivariate Moments. Tensors.
AB This paper extends the results of Grad (1949) and derives an explicit expression for the tensor components of multivariate Hermite polynomials defined from the density of a N-dimensional normal distribution with mean zero and positive definite covariance matrix. It also gives the expression for the tensor of arbitrary order of moments of a N-dimensional vector normally distributed with arbitrary mean and positive definite covariance matrix.

Holtz, Eakin Douglas

PD April 1986. **TI** The Revenues-Expenditures Nexus: Evidence from Local Government Data. **AU** Holtz, Eakin Douglas; Newey, Whitney; Rosen, Harvey. **AA** Newey and Rosen: Princeton University. Holtz-Eakin: Department of Economics, Columbia University. **SR** Columbia Department of Economics Working Paper: 332; Department of Economics, Columbia University, New York, NY 10027. **PG** 25. **PR** $5.00. **JE** 324, 212, 323. **KW** Local Government Finance. Government Expenditure. VAR. Granger Causality. Tax Revenue.
AB The significance of intertemporal linkages between government expenditures and revenues has been discussed both by economists and political scientists. As von Furstenberg, Green and Jeong '1985, 1986 observe, three hypotheses have been advanced: 1. Revenues change concurrently with expenditures. Such a pattern would result if each year the citizens of a jurisdiction (or their representatives) simultaneously select taxes and expenditures using the standard calculus for weighing marginal benefits and costs. Theoretical models generating such behavior are Lindahl's '1958 model of benefit taxation, or the well-known median voter rule. (Black '1948.) 2. Taxes change before spending. To see how this sequence might emerge, consider a government controlled by individuals who want to expand its size beyond that desired by the citizenry. (Niskanen '1976.) In the presence of statutory or constitutional rules prohibiting deficits, how can public sector managers increase spending? According to this story, the answer is that they must wait for revenues to increase, and then increase expenditures. A state senator from New Jersey put it this way: "It is axiomatic that government spending will rise to meet and eventually exceed available revenues." 3. Spending changes before taxes. According to this story, some special event creates a "need" for an increase in expenditures. Rather than cut other expenditures, public sector managers convince voters that the only way to balance the budget is through increased taxes. Buchanan '1960 notes that this view has a long pedigree; its proponents included members of the nineteenth century "Italian school" of public finance. Although the second and third hypotheses seem to carry the implication of non-optimal behavior, it could be argued that nonsynchronous changes in expenditures and revenues need not be associated with the existence of any "failure" in the political process. Members of a community may decide to save for anticipated future expenditures by raising taxes prior to the time those expenditures are made. Alternatively, citizens may choose to pay for certain expenditures over time; i.e., they anticipate that taxes will be raised after expenditures are increased. In short, nonsynchronous changes need not present problems as long as such changes are anticipated. These considerations suggest that one should examine the implications of the three hypotheses for the impact of unanticipated changes in revenues and expenditures on the other side of the budget. Surprises occur in the budgets of governments just as they do in the budgets of families. Do innovations on the revenues side precede changes in the expenditures side, or vice versa?

PD March 1987. **TI** The Revenues-Expenditures Nexus: Evidence from Local Government Data. **AU** Holtz, Eakin Douglas; Newey, Whitney; Rosen, Harvey. **AA** Holtz-Eakin: Department of Economics, Columbia University. Newey and Rosen: Department of Economics, Princeton University. **SR** National Bureau of Economic Research Working Paper: 2180; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PR** $2.00. **JE** 324, 322, 323, 212. **KW** Local Government. Government Revenue. Government Expenditures. Municipal Government. Vector Autoregression. VAR. Granger Causality. Federal Government. Taxes.
AB This paper examines the intertemporal linkages between local government expenditures and revenues. In the terminology that has become standard in the literature on vector autoregression analysis, the issue is whether revenues Granger-cause expenditures, or expenditures Granger-cause revenues. The main results that emerge from an analysis of fiscal data from 171 municipal governments over the period 1972-1980 are that: 1) one or two years are sufficient to summarize the relevant dynamic interrelationships; 2) there are important intertemporal linkages between expenditures, taxes and grants; and 3) past revenues help predict current expenditures, but past expenditures do not alter the future path of revenues. This last finding is contrary to results that have emerged from previous analyses of federal fiscal data, and hence suggests the need for additional research on the differences in the processes generating local and federal decisions.

Holzer, Harry J.

PD March 1987. **TI** Hiring Procedures in the Firm: Their Economic Determinants and Outcomes. **AA** Department of Economics, Michigan State University. **SR** National Bureau of Economic Research Working Paper: 2185; National Bureau of Economic

Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PR** $2.00. **JE** 824, 825, 811, 512, 513. **KW** Hiring Practices. Recruitment. Screening Procedure. Workers. Productivity. Search Model.

AB This paper presents an economic analysis of recruitment and screening procedures chosen by firms as they hire new workers. After reviewing the relevant literature within the labor economics and human resources fields, I outline an employer search model in which firms choose hiring procedures as well as reservation productivity levels. The outcomes determined by these choices (e.g., expected vacancy durations, expected worker productivity and characteristics, and total resources devoted to hiring) are considered as well. I then present some empirical evidence on the determinants and outcomes of hiring procedures from a survey of firms. Among other things, the results show some evidence of higher productivity and lower turnover among those hired through referrals from current employees. Total time spent on hiring when using these referrals is also shown to be lower than when other methods are used. However, those hired through these referrals are less likely to be young or female than are those hired through other methods. The implications of these findings for "efficiency" and "equity" considerations are then discussed.

Horn, Henrik

TI Infant-Industry Protection Reconsidered: The Case of Informational Barriers to Entry. **AU** Grossman, Gene M.; Horn, Henrik.

TI Infant-Industry Protection Reconsidered: The Case of Informational Barriers to Entry. **AU** Grossman, Gene M.; Horn, Henrik.

Hotz, V. Joseph

PD November 1986. **TI** An Empirical Analysis of Life Cycle Fertility and Female Labor Supply. **AU** Hotz, V. Joseph; Miller, Robert A. **AA** Hotz: University of Chicago and NORC. Miller: Carnegie-Mellon University and NORC. **SR** Economics Research Center/NORC Discussion Paper: 86-15; Economics Research Center/NORC, 6030 South Ellis, Chicago, IL 60637. **PG** 48. **PR** $2.00; send requests to Librarian, NORC. **JE** 824, 841, 913, 851, 921. **KW** Fertility. Female Labor Supply. Women. Children. Contraceptive. Child Care. Births.

AB This paper examines household fertility and female labor supply over the life cycle. We investigate how maternal time inputs, market expenditures on offspring, as well as the benefits they yield their parents, vary with ages of offspring, and influence female labor supply and contraceptive behavior. Our econometric framework combines a female labor supply model and a contraceptive choice index function. It also accounts for the fact that conceptions are not perfectly controllable events. Using longitudinal data on married couples from the Panel Study of Income Dynamics, we estimate these equations and test alternative specifications of the technologies governing child care. Our findings suggest that while parents cannot perfectly control conceptions, variations in child care costs do affect the life cycle spacing of births. Furthermore, our results demonstrate the gains of modelling the linkages between female labor supply and fertility behavior at the household level.

PD November 1986. **TI** An Empirical Analysis of Life Cycle Fertility and Female Labor Supply. **AU** Hotz, V. Joseph; Miller, Robert A. **AA** Hotz: University of Chicago and Economics Research Center/NORC. Miller: Carnegie-Mellon University and Economics Research Center/NORC. **SR** Economics Research Center/NORC Discussion Paper: 86-15; Economics Research Center/NORC, 6030 S. Ellis, Chicago, Il 60637. **PG** 48. **PR** $2.00; send requests to Librarian, NORC. **JE** 821, 824, 826, 841, 913. **KW** Life Cycle. Fertility. Female Labor Supply. Birth. Contraceptive. Child Care. Family Planning.

AB This paper examines household fertility and female labor supply over the life cycle. We investigate how maternal time inputs, market expenditures on offspring, as well as the benefits they yield their parents, vary with ages of offspring, and influence female labor supply and contraceptive behavior. Our econometric framework combines a female labor supply model and a contraceptive choice index function. It also accounts for the fact that conceptions are not perfectly controllable events. Using longitudinal data on married couples from the Panel Study of Income Dynamics, we estimate these equations and test alternative specifications of the technologies governing child care. Our findings suggest that while parents cannot perfectly control conceptions, variations in child care costs do affect the life cycle spacing of births. Furthermore, our results demonstrate the gains of modelling the linkages between female labor supply and fertility behavior at the household level.

PD January 1987. **TI** Intertemporal Preferences and Labor Supply. **AU** Hotz, V. Joseph; Kydland, Finn E.; Sedlacek, Guilherme. **AA** Hotz: University of Chicago. Kydland: Carnegie-Mellon University. Sedlacek: IPEA/INPES. **SR** Economics Research Center/NORC Discussion Paper; Economics Research Center/NORC, 6030 S. Ellis, Chicago, IL 60637. **PG** 41. **PR** $2.00; send requests to Librarian, NORC. **JE** 821, 022, 824. **KW** Labor Supply. Consumption. Life-Cycle Model. Intertemporal Substitution.

AB Recently, several authors have argued for the use of dynamic preference structures for leisure which incorporate forms of intertemporally nonseparable utility in the analysis of intertemporal labor supply decisions. In this paper, we examine whether such nonseparable utility functions are important in characterizing microdata on life-cycle labor supply. Using longitudinal data on males from the Panel Study of Income Dynamics, we estimate a model of life-cycle labor supply and consumption under uncertainty in which the structure of intertemporal leisure preferences is allowed to be nonseparable in leisure. Our model nests as special cases a number of alternative specifications considered in the literature. We investigate the robustness of our findings to certain forms of population heterogeneity and to some types of model misspecification. Across a number of alternative specifications, we find evidence that the standard assumption of intertemporally separable preferences for leisure is not consistent with data for prime-age males.

Hubbard, R. Glenn

TI Market Structure and Cyclical Fluctuations in U.S. Manufacturing. **AU** Domowitz, Ian; Hubbard, R. Glenn; Peterson, Bruce C.

Huber, Alan M.

TI New Estimates of State and Local Government Tangible Capital and Net Investment. **AU** Boskin, Michael J.; Robinson, Marc; Huber, Alan M.

Hughes, Gordon

PD July 1986. **TI** Housing Markets, Unemployment and Labour Market Flexibility in the UK. **AU** Hughes, Gordon; McCormick, Barry. **AA** Hughes: University of Edinburgh. McCormick: University of Southampton and Cornell University. **SR** University of Southampton Discussion Paper in Economics and Econometrics: 8622; Department of Economics, University of Southampton, Southampton 509 5NH, ENGLAND. **PG** 44. **PR** No Charge. **JE** 932, 823, 813, 841. **KW** Housing. Unemployment. Labor Market. United Kingdom Public Housing. Migration.

AB Our previous work has shown that British tenants in public housing have significantly lower rates of migration and higher rates of unemployment than other households. This paper examines regional migration and house movement for job-related reasons. The results indicate that public housing inhibits local movement for job-related reasons as well as migration. Comparison of migration and movement rates in the United Kingdom and the United States shows that British migration rates are less than one-half of comparable American rates, even after adjusting for the impact of differences in tenure and college education patterns. Further, there is little evidence that migration operates to reduce inter-regional differences in rates of unemployment. We conclude by discussing the possible effects of geographic immobility on the operation of the labour market, especially with respect to the level of the NAIRU and its regional distribution.

Illing, Gerhard

PD December 1986. **TI** The Optimum Quantity of Money and Asymmetric Information. **AA** Department of Economics, University of Munich and Department of Economics, University of Western Ontario. **SR** University of Western Ontario Department of Economics Research Report: 8701; Department of Economics, Social Sciences Center, University of Western Ontario, London, Ontario, CANADA N6A 5C2. **PG** 30. **PR** $5.00 Canada $7.00 Elsewhere. **JE** 021, 026, 310. **KW** Optimum Quantity Theory. Verification Costs. Insurance Contracts. Money Contracts. Long-Term Contracts.

Inman, Robert P.

PD February 1987. **TI** Central Policies for Local Debt: The Case of Teacher Pensions. **AU** Inman, Robert P.; Albright, David J. **AA** Department of Economics, University of Pennsylvania. **SR** National Bureau of Economic Research Working Paper: 2166; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PR** $2.00. **JE** 324, 912, 918, 824, 325. **KW** Local Government. Teachers. Pensions. Education. Debt Crises. State Government.

AB The recent debt crises in New York City and Cleveland, the deterioration of public infra-structures in certain of our states and larger cities, and the occasional bankruptcy of smaller pension plans suggest that not all of local finance stands on a sound fiscal base. This paper examines the trends in funding for one form of state and local government debt -- teacher pensions underfundings -- and asks what a central government might do to check any unwanted growth in these liabilities. The analysis concludes (i) that this form of state-local debt is sizeable and growing, (ii) that state and local governments have an implicit pay-as-you-go bias in pension financing which encourages the growth of debt, but (iii) central government benefit and funding regulations or debt relief policies can slow, or even reverse, that growth.

Ioannides, Yannis M.

PD February 1987. **TI** Life Cycle Consumption, Labor Supply and Housing. **AA** Virginia Polytechnic Institute and State University. **SR** Virginia Polytechnic Institute and State University Working Paper in Economics: E87-0202; Department of Economics, Virginia Polytechnic Institute and State University, Blacksburg, VA 24061. **PG** 31. **PR** Free by request. **JE** 821, 932, 212, 921. **KW** Life Cycle. Housing. Saving. Liquidity Constraints. Consumption. Labor.

AB We use pooled cross-section and time-series data from the Panel Study of Income Dynamics detailing some key components of consumption, labor and asset income, and housing expenditure to study the interaction between housing and other lifecycle decisions. We pay particular attention to the potential impact of liquidity constraints on intertemporal allocation decisions. A key element of this approach is to treat explicitly the constraints which the near fixity of housing consumption during residence spells imposes on the estimation of a restricted translog expenditure function with nonhousing consumption and labor supply data. A system of simultaneous equations for the path of nonhousing expenditure and its share that goes to leisure are used to estimate the parameters. The data pertaining to households with positive net worth give a much better fit for the system in first-difference form then for those pertaining to non-positive net worth. Good results are obtained for single-equation estimations of the change in housing consumption when moves occur and of the share of total nonhousing expenditure which goes to leisure. Our results regarding housing consumption are novel, in the context of both the housing literature and life cycle theory and largely in agreement with intuition. As for the impact of liquidity constraints on life cycle decisions our methods suggest that it is significant.

Ippolito, Pauline M.

PD December 1986. **TI** Advertising and Product Quality: The Role of the Bonding Characteristics of Advertising. **AA** Federal Trade Commission. **SR** Federal Trade Commission Bureau of Economics Working Paper: 148; Bureau of Economics, Federal Trade Commission, 6th and Pennsylvania Avenue NW, Washington, D.C. 20580. **PG** 54. **PR** No Charge. **JE** 022, 531, 026, 921. **KW** Advertising. Signalling. Product Quality. Imperfect Information.

AB This paper is about advertising and advertising's potential to fill a quality assurance role. The durability of advertising and the sensitivity of that durability to cheating are fundamental to advertising's potential as a quality signal. This is true because these features directly affect advertising's ability to "bond" performance, and bonding is a more efficient signalling mechanism than simple conspicuous expenditures. The price premium received by high quality sellers depends on advertising's strength as a bonding instrument. As a result, this price premium cannot be inferred independently of the signal used by consumers to separate different quality sellers. The difference between bonding and non-bonding signals helps to explain the literature's widely divergent results on the cost conditions under which advertising can indicate hidden quality.

Jemison, David B.

PD November 1986. **TI** Process Constraints on Strategic Capability Transfer During Acquisition Integration. **AA** Graduate School of Business, Stanford University. **SR** Stanford Graduate School of Business Research Paper: 914; Graduate School of Business, Stanford University, Stanford, CA 94305-2391. **PG** 43. **PR** No Charge. **JE** 510, 520. **KW** Acquisition. Merger. Strategic Capability. Organizational Process. Technology Transfer.

AB This paper extends the grounded theory of acquisition integration proposed by Jemison (1986). Three constraints in the acquisition integration process (determinism, value destruction, and leadership misdirection) that reduce the chance an acquisition will be successful are presented. These constraints are shown to inhibit the transfer of strategic capabilities between the firms after the acquisition, thus limiting any improvement in the firms' competitive advantages.

PD November 1986. **TI** Strategic Capability Transfer in Acquisition Integration. **AA** Graduate School of Business, Stanford University. **SR** Stanford Graduate School of Business Research Paper: 913; Graduate School of Business, Stanford University, Stanford, CA 94305-2391. **PG** 41. **PR** No Charge. **JE** 510, 520. **KW** Acquisitions. Merger. Strategic Capability Transfer. Organizational Process. Firm Management.

AB This paper presents a grounded theory of the acquisition integration process. The theory proposes that the central element in successful acquisition integration is the transfer of strategic capabilities between firms. A series of interactions between the firms' managers leads to a set of conditions that facilitate the transfer of strategic capability and as a consequence an improvement in the firms' competitive advantage. Thus, the theory links the processes involved in combining the firms with the improvement in competitive advantage expected from the acquisition by focusing on the strategic capability transfer process.

Johnson, Stephen

PD March 1987. **TI** Can People Compute? An Experimental Test of the Life Cycle Consumption Model. **AU** Johnson, Stephen; Kotlikoff, Laurence; Samuelson, William. **AA** Johnson: The Kennedy School of Government, Harvard University. Kotlikoff: National Bureau of Economic Research. Samuelson: School of Management, Boston University. **SR** National Bureau of Economic Research Working Paper: 2183; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PR** $2.00. **JE** 022, 023, 921. **KW** Life Cycle Hypothesis. Experiment. Rational Choice. Preferences. Consumption. Homotheticity. Time Separability.

AB This paper presents the results of an experimental study of the life cycle model in which subjects were asked to make preferred consumption choices under hypothetical life cycle economic conditions. The questions in the experiment are designed to test the model's assumption of rational choice and to elicit information about preferences. The subjects' responses suggest a widespread inability to make coherent and consistent consumption decisions. Errors in consumption decision-making appear to be very substantial and, in many cases, systematic. In addition, the experiment's data strongly reject the standard homothetic, time-separable life cycle model. The principal specific findings of the laboratory experiment are: (1) Subjects displayed significant inconsistencies in their consumption decisions; each of the subjects, in at least two pairs of economically identical situations, chose consumption values that differed by 20 percent or more. From the perspective of the standard life cycle model, error in decision-making accounts, on average, for roughly half of the variation in consumption. (2) A sizeable fraction of subjects undervalued future earnings relative to present assets; i.e., they systematically overdiscounted future earnings. (3) Almost all subjects exhibited oversaving behavior, apparently because they underestimated the power of compound interest. (4) The hypothesis that intertemporal consumption preferences are uniform across individuals is strongly rejected. Indeed, the demographic characteristics of subjects are significant determinants of consumption choice in the experiment.

Jones, Rich

PD December 1986. **TI** Regional Effects of Taxes in Canada: An Applied General Equilibrium Approach. **AU** Jones, Rich; Whalley, John. **AA** Department of Economics, The University of Western Ontario. **SR** National Bureau of Economic Research Working Paper: 2107; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PR** $2.00. **JE** 323, 122, 941. **KW** Taxes. Canada. Regional Effects. Taxation.

AB This paper reports on an applied general equilibrium regional model for Canada which is used to investigate the regional effects of taxes. Earlier, literature on regional tax effects is reviewed and the main features of the model are briefly described. Existing literature on regional tax effects is largely non-quantitative, and does not discuss several important regional features of taxes, such as taxes which are predominantly on products or industries located in particular regions. Results suggest that regional effects of taxes can be significant, and in the Canadian case at least, do not tend to counterbalance one another. In general, richer regions tend to lose and poorer regions gain from federal taxes, but other regional characteristics such as manufacturing/non-manufacturing, or resource/non-resource can be important.

Judd, Kenneth L.

PD February 1987. **TI** Debt and Distortionary Taxation in a Simple Perfect Foresight Model. **AA** Northwestern University, National Fellow, Hoover Institution. **SR** Stanford Hoover Institute Working Paper in Economics: E-87-5; Domestic Studies Program Working Paper Series, Hoover Institution, Stanford University, Stanford, CA 94305. **PG** 41. **PR** No Charge. **JE** 023, 322, 311, 321, 323. **KW** Ricardian Equivalence. Debt Policy. Income Tax Distortion. Investment. Interest Rate. Consumption. Neutrality.

AB This paper examines the real effects of a temporary substitution of debt for distortionary income taxation. We find that such a policy will reduce consumption, increase investment, and reduce interest rates. These results arise even though we examine the same model used by Barro, where the temporary substitution of debt for lump-sum taxes were shown to have no real effects. We show that these anti-Keynesian effects on consumption are of the same order of magnitude as various pro-Keynesian effects, such as finite lives. Hence, the impact of debt is an empirical issue and Ricardian neutrality appears to be a reasonable benchmark.

TI Effects of Capital Gains Taxation on Life-cycle Investment and Portfolio Management. **AU** Balcer, Yves; Judd, Kenneth L.

Kahn, James A.

PD December 23, 1986. **TI** Inventories and the Volatility of Production. **AA** University of Rochester. **SR** University of Rochester Center for Economic Research Working Paper: 67; Department of Economics, University of Rochester, Rochester, NY 14627. **PG** 39. **PR** No Charge. **JE** 022, 631, 511, 026. **KW** Inventories. Production Volatility. Backlog. Sales.

AB This paper develops an analytically tractable model of a firm's production decisions in the face of demand uncertainty that takes explicit account of the non-negativity constraint on inventories. The model also allows a range of assumptions about the firm's ability to backlog its excess demand. Either the ability to backlog or positive serial correlation in demand causes the firm's production to exhibit more variance than its sales. Testable implications of the model are discussed, and modifications to the standard linear-quadratic specification are suggested.

Kambhu, John

PD May 1986. **TI** Strategic Reporting of Costs and Planned Capacity. **AA** Department of Economics, Columbia University. **SR** Columbia Department of Economics Working Paper: 329; Department of Economics, Columbia University, New York, NY 10027. **PG** 28. **PR** $5.00. **JE** 611, 026, 022. **KW** Game Theory. Incomplete Information. Disclosure. Capacity Choice. Oligopoly. Equilibria.

AB In a multimove game of incomplete information with rivalry, we shall study the unilateral disclosure of private information by a player that allows a rival to anticipate the player's future move. In the game, the informed player can choose to report nothing, to report truthfully, or to lie. Our game is a model of capacity choice in an oligopolistic industry, where the informed player makes both a new investment decision, and a decision to retire or scrap old capacity. At issue is the question, will the firm disclose information that reveals how much of the new investment is intended to replace old capacity? There are three types of equilibrium outcomes, one in which no information is revealed, one in which the informed player truthfully discloses his information, and one in which the informed player lies to mislead his opponent. Just as interesting as the existence of an equilibrium with truthful disclosure, is the result that the disclosures are made unilaterally, and arise endogeneously out of the strategic interaction between the firms. In our model, the uniformed player cannot precommit to any strategy, and his moves are always best responses relative to the information he possesses. Hence, he cannot be said to be choosing a strategy expressly designed to elicit disclosures. This result points to the existence of informal working arrangements in the relationship between firms who are otherwise rivals, so that rival firms in markets with incomplete information may be more informed about each other than we might have thought. Moreover, the disclosures are not supported by reputations and long term relationships. There is no room for reputations in the model as the game is not a repeated game. Additionally, the disclosures are not in any way related to collusive behavior.

Kaminsky, Graciela Laura

PD March 1987. **TI** The Black Market and its Effects on Welfare and on the Current Account. **AA** Department of Economics, University of California, San Diego. **SR** University of California at San Diego Department of Economics Discussion Paper: 87-12; Department of Economics, D-008, University of California at San Diego, La Jolla, CA 92093. **PG** 34. **PR** $2.00. **JE** 431, 916. **KW** Black Market. Foreign Exchange. Current Account. Intertemporal Model. Exchange Rate.

AB It is often argued that an increase in the black market premium leads to a short-run surplus in the current account. This result is obtained in models that incorporate ad hoc savings functions, not a very interesting approach to investigate an intertemporal topic such as current account behavior. Instead, this paper investigates the optimal path of savings in an economy with currency inconvertibility and a black market for foreign exchange and where the savings function is derived from explicit forward looking maximizing behavior. The paper shows how exogenous disturbances affect the black market exchange rate, the time profile of consumption and the current account. In particular, it is shown that a black market premium does not necessarily result in a current account surplus.

Kanbur, S. M. Ravi

PD April 1986. **TI** Intergenerational Mobility and Dynastic Inequality. **AU** Kanbur, S. M. Ravi; Stiglitz, Joseph E. **AA** Kanbur: Department of Economics, University of Essex. Stiglitz: Department of Economics, Princeton University. **SR** Princeton Econometric Research Program Memorandum: 324; Department of Economics, Princeton University, Princeton, NJ 08544. **PG** 30. **PR** $2.00. **JE** 022, 024. **KW** Mobility. Dynastic Inequality. Welfare Functions. Social Welfare.

Income Distribution.
AB This paper is a contribution to the comparison of mobility in a social welfare framework. In particular, we emphasize the consequences of alternative mobility structures for dynastic inequality. This means that we consider social welfare functions which are not simply additive across dynastic welfare. We derive a necessary and sufficient characterization of social welfare dominance in this framework, and relate the implied partial ordering of mobility structures to several conventional views on what constitutes a more mobile society.

Karni, Edi

PD January 1987. **TI** Aggregate and Distributional Effects of Social Security. **AU** Karni, Edi; Zilcha, Itzhak. **AA** Karni: Johns Hopkins University. Zilcha: Tel-Aviv University, Department of Economics. **SR** Tel Aviv Foerder Institute for Economic Research Working Paper: 1-87; Department of Economics, Tel Aviv University, Ramat Aviv 69978, Tel Aviv, ISRAEL. **PG** 29. **PR** No Charge. **JE** 915, 911, 025, 323, 022, 023, 822. **KW** Overlapping Generations. Social Security. Income Distribution.
AB In a two-period overlapping generations economy with production, endogenous labor supply, and uncertain lifetime, we show that the introduction of a fair, fully-funded, social security program will reduce the aggregate levels of output, employment, capital and savings, and increase the inequality in the distribution of income. These conclusions apply to the entire non-stationary, competitive, equilibrium path taken by the economy following the institution of social security. In this analysis the social security system derives its revenues from a proportional social security tax on labor earnings of each generation and distributes its benefits uniformly to the surviving members of the same generation in the second period of their lifetime. Finally, intergenerational transfers in this economy are motivated by the "joy-of-giving".

Katseli, Louka T.

PD October 1986. **TI** Theoretical and Empirical Determinants of International Labour Mobility: A Greek-German Perspective. **AU** Katseli, Louka T.; Glytsos, Nicholas P. **AA** Katseli: The Athens School of Economics. Glytsos: Centre of Planning and Economic Research. **SR** Centre for Economic Policy Research Discussion Paper: 148; Centre for Economic Policy Research, 6 Duke of York Street, London SW1Y 6LA, ENGLAND. **PG** 30. **PR** 1 pound ($2.00) individuals; 1.50 pounds ($3.00) companies, libraries, institutions. **JE** 823, 841, 411, 421, 422, 431, 441. **KW** Labor Mobility. Emigration. Labor Migration. Repatriation. Labor Exchange. Guest Workers. Capital Mobility.
AB Emigration of labour and its subsequent repatriation can best be understood as phases of an intertemporal exchange process, of a relatively abundant factor, namely unskilled labour, for a relatively scarce factor, namely capital. This capital flow initially consists of financial capital, that is of emigrant remittances, and of human capital at the time of repatriation. This analytical hypothesis is empirically tested on Greek data and seems to be validated by the empirical evidence presented. The formulation of the emigration-repatriation cycle as an intertemporal phenomenon highlights the need for forward-looking policies. The analysis suggests that planning for the period of net immigration and of reduced remittances should be an integral component of policy in the sending country.

Kenneth, L. Judd

PD February 1987. **TI** Capital Gains Taxation by Realization in Dynamic General Equilibrium. **AA** Northwestern University, National Fellow, Hoover Institution. **SR** Stanford Hoover Institute Working Paper in Economics: E-87-4; Domestic Studies Program Working Paper Series, Hoover Institution, Stanford University, Stanford, CA 94305. **PG** 41. **PR** No Charge. **JE** 323, 023, 521, 522. **KW** Capital Gains Taxation. Cost of Capital. Investment. Capital Stock. Corporate Tax.
AB One of the more controversial aspects of the tax structure is capital gains taxation. While its impact on trading strategies, volume of trade, and security prices has been studied, there has been little work examining the macroeconomic and allocative effects of capital gains taxation. In this paper we examine how capital gains taxation may differ from capital income taxation in its effects on investment and its efficiency as a source of revenue. We jointly examine capital gains taxation and capital income taxation in a perfect foresight model of general equilibrium. We first characterize equilibrium and develop a cost of capital formula. Whereas most studies of the cost of capital use accrual "equivalents" as proxies for capital gains taxation by realization, we find that the cost of capital depends on capital gains tax parameters in fashions substantially different from its dependence on accrual taxes. Then we analyze the effects of permanent and unanticipated changes in capital gains taxation. We find in this model that the short-run impact on capital stock due to a capital gains tax increase is possibly much greater than the long-run impact. This indicates that it may be severely misleading to extrapolate the short-run results of the empirical literature to the long run. Next, we compare the excess burden of an increase in capital gains taxation to that of the corporate income tax, finding the capital gains tax to be less distortionary at the margin than capital income taxation if the basis value of equity is small relative to the price of the equity at the time of the tax increase or if tax rates are low. On the other hand, if the corporate income tax is high, then an increase in corporate taxation is preferable at the margin.

Kern, Walter

TI On Sticky Matroids. **AU** Bachem, Achim; Kern, Walter.

PD March 1986. **TI** On the Rate of Convergence of Some Stochastic Processes. **AA** University of Cologne. **SR** Universitat Bonn Sonderforschungsbereich 303 - Discussion Paper: 85/26; Sonderforschungsbereich 303 an der Universitat Bonn, Adenauerallee 24-42, D-5300 Bonn 1, DEUTSCHLAND. **PG** 8. **PR** No Charge. **JE** 213. **KW** Random Variables. Stochastic Process. Rate of Convergence.
AB The paper shows convergence for certain stochastic processes of real vector valued independent identically distributed random variables. The study strengthens a

previous result of Steele.

PD May 1986. **TI** A Probabilistic Analysis of the Switching Algorithm for the Euclidean TSP. **AA** University of Cologne. **SR** Universitat Bonn Sonderforschungsbereich 303 - Discussion Paper: 86/28; Sonderforschungsbereich 303 an der Universitat Bonn, Adenauerallee 24-42, D-5300 Bonn 1, DEUTSCHLAND. **PG** 8. **PR** No Charge. **JE** 213. **KW** Switching Algorithm. Euclidean Travelling Salesman Problem.
AB The well known switching algorithm proposed by Lin and Kernigham for the Euclidean Travelling Salesman Problem has proved to be a simple efficient algorithm for medium size problems (though it often gets trapped in local optima). Although its complexity status is still open, it has been observed to be polynomially bounded in practice, when applied to uniformly distributed points in the unit square. In this paper this polynomial behaviour is derived theoretically (However, we will come up with a bound of (n to the 18th power) with probability 1 - c/n, whereas in practice the algorithm works slightly better).

PD August 1986. **TI** On a Problem About Covering Lines by Squares. **AU** Kern, Walter; Wanka, Alfred. **AA** University of Cologne. **SR** Universitat Bonn Sonderforschungsbereich 303 - Discussion Paper: 86/31; Sonderforschungsbereich 303 an der Universitat Bonn, Adenauerallee 24-42, D-5300 Bonn 1, DEUTSCHLAND. **PG** 8. **PR** No Charge. **JE** 213. **KW** Line Cover. Related LP-Relaxation. Unit Squares. Linear Programming.
AB Let S be the square of '0,n of side length n element of N and let S = 'S1,.,St be a set of unit squares lying inside S, whose sides are parallel to those of S. S is called a line cover, if every line intersecting S also intersects some Si element of S. Let tau(n) denote the minimum cardinality of a line cover, and let tau'(n) be defined in the same way, except that we restrict our attention to lines which are parallel to either one of the axes or one of the diagonals of S. It has been conjectured by L. F. Toth that tau(n) = 2n + 0(1) and by I. Barany and Z. Furedi that tau(n) = (3/2)n + 0(1). We will prove that, instead, tau(n) = (4/3)n + 0(1), and as to Toth's conjecture, we will exhibit a "non integer" solution to a related LP-relaxation, which has size equal to (3/2)n + 0(1).

PD August 1986. **TI** On the Depth of Combinatorial Optimization Problems. **AA** University of Cologne. **SR** Universitat Bonn Sonderforschungsbereich 303 - Discussion Paper: 86/33; Sonderforschungsbereich 303 an der Universitat Bonn, Adenauerallee 24-42, D-5300 Bonn 1, DEUTSCHLAND. **PG** 12. **PR** No Charge. **JE** 213. **KW** Hill Climbing. Depth. Computational Complexity. Simulated Annealing.
AB Consider a discrete optimization problem max 'c(x)1:x element of X. Usually hill climbing algorithms work as follows: First, a neighbourhood structure has to be specified on X. Then, starting from an arbitary solution, say X0, one constructs a sequence X0, X1, X2,. (hopefully leading to an optimum) such that Xi is a neighbour of X(i-1) for all i. For X0 element of X, the depth d(X0) is defined to be the smallest d >= 0 such that there exists a sequence X0, X1,.,Xn with c(Xn) > c(X0) and all intermediate solutions Xi having objective value c(Xi) >= c(X0) - d. The depth of the problem is defined to be the maximum depth of a solution X0 element of X. This notion plays an important role in the theory of Simulated Annealing. Here we want to show that the depth is of some interest in its own right. We will prove some upper bounds and investigate the computational complexity of the depth function for some selected examples.

Kesselman, Jonathan R.

PD November 1986. **TI** The BTT, the Tax Mix, and Tax Reform. **AA** Department of Economics, University of British Columbia. **SR** University of British Columbia Department of Economics Discussion Paper: 86-42; Department of Economics, University of British Columbia 997 - 1873 East Mall, Vancouver, B.C. CANADA V6T 1Y2. **PG** 19. **PR** $0.20 per page Canadian to other than educational institutions. **JE** 323. **KW** Business Transfer Tax. Taxation Policy. Canada. Sales Tax. Value Added Tax. Taxes.
AB The federal government's proposed business transfer tax (BTT) is the most momentous development in Canadian taxation policy since the 1960s Carter Commission and the Income Tax Act of 1971. Assessing the BTT proposal involves some fascinating issues in the economic analysis and political economy of taxation policy. These issues relate to three vital areas. First, there is the choice of a BTT as distinct from a value added tax or a retail sales tax to replace the existing manufacturers' sales tax. Second, the appropriate mix between direct and indirect taxes in the overall revenue structure must be assessed based upon relevant economic and political criteria. Third, there are important interrelations between an expanded and reformed indirect tax, such as a BTT, and a broader reform strategy for the rest of the federal tax system. My discussion here will attempt to cover all of these related policy issues. Some points will of necessity be treated at an overview level, although references are provided for those wishing to pursue matters further.

PD December 1986. **TI** Evasion of Taxes in General Equilibrium. **AA** Department of Economics, University of British Columbia. **SR** University of British Columbia Department of Economics Discussion Paper: 86-45; Department of Economics, University of British Columbia 997 - 1873 East Mall, Vancouver, B.C. CANADA V6T 1Y2. **PG** 35. **PR** $0.20 per page Canadian to other than educational institutions. **JE** 323, 021. **KW** Tax Evasion. Tax Rate. Tax Mix. Taxation Policy. Income Tax. Sales Tax.
AB Previous analyses of tax evasion have focussed on the portfolio theory of choice under risk and neglected the general equilibrium aspects. This paper develops two specific models for analyzing tax evasion within a general equilibrium framework. First, an income tax regime is assessed for the effects of tax rate changes on evasion activity, relative output prices, and the revenue response. Second, a fiscal regime with both income and sales taxes is assessed for similar effects of tax mix changes with real revenues held constant. Qualitative and quantitative properties of the models are explored, and important implications for taxation policy result.

Kimbrough, Kent

TI An Investigation in the Theory of Foreign Exchange Controls. **AU** Greenwood, Jeremy; Kimbrough, Kent P.

PD May 1986. **TI** The Optimum Quantity of Money Rule in the Theory of Public Finance. **AA** Department of Economics, Duke University. **SR** Duke Working Paper in Economics: 86-16; Working Papers Series, Department of Economics, Duke University, Durham, NC 27706. **PG** 10. **PR** No Charge. **JE** 323, 311, 321. **KW** Tax Policy. Monetary Economy. Transactions Costs. Inflationary Finance.

AB This paper examines optimal tax policy in a monetary economy in which money serves as an intermediate good that helps facilitate the conversion of scarce resources into final consumption goods by enabling consumers to economize on the costs of transacting. That is, money is held for transactions purposes. It is shown that in such an environment even though distorting taxes must be levied for revenue purposes the optimal tax structure calls for abstaining from inflationary finance and adopting the optimum quantity of money rule.

TI Foreign Exchange Controls in a Black Market Economy. **AU** Greenwood, Jeremy; Kimbrough, Kent.

King, Maxwell L.

PD January 1987. **TI** Locally Optimal Properties of the Durbin-Watson Test. **AU** King, Maxwell L.; Evans, Merran A. **AA** Monash University. **SR** Monash Department of Econometrics and Operations Research Working Paper: 1/87; Department of Econometrics and Operations Research, Monash University, Clayton, Victoria 3168, AUSTRALIA. **PG** 15. **PR** No Charge. **JE** 211. **KW** Durbin Watson Test. Serial Correlation. Autocorrelation. AR Process. ARMA Process.

AB Although originally designed to detect AR(1) disturbances in the linear regression model, the Durbin-Watson test is known to have good power against other forms of disturbance behaviour. In this paper we identify disturbance processes involving one or more parameters against which the Durbin-Watson test is approximately locally best invariant. Examples include the sum of q independent ARMA(1,1) processes, certain spatial autocorrelation processes involving up to four parameters, and a stochastic cycle model.

Klein, Roger

PD March 1987. **TI** Factors Affecting the Output and Quit Propensities of Production Workers. **AU** Klein, Roger; Spady, Richard; Weiss, Andrew. **AA** Bell Communications Research. **SR** National Bureau of Economic Research Working Paper: 2184; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PR** $2.00. **JE** 824, 825, 826. **KW** Production. Quit Rates. Labor Productivity. Semi-Skilled Labor. Wages.

AB We have used a proprietary data set of newly hired semi-skilled production workers at one location of a large unionized firm to investigate several issues in labor economics. This data set is unique in several respects: the workers in our sample faced the same wage schedules, had the same promotional opportunities, the same job tenure (zero), similar working conditions, and had jobs for which we were able to record their physical output. We analyze these data by formulating a simultaneous equation model to explain wages, output, education, and a worker's quit decision. The model is estimated by maximum likelihood and subjected to a variety of specification tests. Such tests include a comparison of the standard error estimates that form the basis for White's information test, and White's version of a Hausman specification test. Our principal findings are: 1. Individuals that choose more education than we would expect from their observed characteristics have lower than expected quit propensities. We argue that this low quit propensity is one of the unmeasured (and unobserved) attributes that sorting models posit are correlated with education and hence distort the usual estimates of rates of return to education. 2. The performance of non-whites in our sample was no lower than that of whites. However, on their previous jobs non-whites received lower wages than did whites. 3. The output per hour of males in our sample was higher than that of females; however, we were unable to conclude from our data whether these productivity differences could explain the higher wages received by men on their previous jobs. Moreover, this output difference may be transitory and may diminish with on-the-job learning. 4. The expected value of alternative wages had a positive (but not statistically very significant) effect on quit rates. Workers with better alternative opportunities were more likely to quit (all workers had the same opportunities on their current job). 5. Finally we found that workers with high output levels were more likely to quit than were workers with average output levels.

Kletzer, Kenneth

PD October 1986. **TI** Credit Markets and Patterns of International Trade. **AU** Kletzer, Kenneth; Bardhan, Pranab. **AA** Kletzer: Yale University. Bardhan: University of California at Berkeley. **SR** University of California at Berkeley Department of Economics Working Paper: 8612; IBER, 156 Barrows Hall, University of California at Berkeley, Berkeley CA 94720. **PG** 30. **PR** $3.50. **JE** 411, 023, 313, 431. **KW** Sovereign Risk. Bankruptcy Laws. Moral Hazard. Credit Market Imperfections. Contract Enforcement.

AB Even with identical technology or endowments between countries comparative costs may differ in a world of credit market imperfection. We have explored two kinds of such imperfection, one involving moral hazard considerations in the international credit market under sovereign risk and the other involving differences between countries in their domestic institutions of credit contract enforcement under incomplete information.

TI Saving and Investment in an Open Economy with Non-Traded Goods. **AU** Engel, Charles; Kletzer, Kenneth.

Kniesner, Thomas J.

PD June 23, 1986. **TI** Family Structure, Race, and the Feminization of Poverty. **AU** Kniesner, Thomas J.; McElroy, Marjorie B.; Wilcox, Stephen P. **AA** McElroy: Department of Economics, Duke University. Wilson, Kniesner: University of North Carolina at Chapel Hill. **SR** Duke Working Paper in Economics: 86-17; Working Papers Series, Department of Economics, Duke University, Durham, NC 27706. **PG** 37. **PR** No Charge. **JE** 914, 917, 911, 841. **KW** Marriage. Childbearing. Poverty. Women. Economic Well-Being. Divorce. Welfare.

AB In light of the facts our basic research goal is straightforward. It is to analyze theoretically and empirically changes in family structure and the comcomitant contribution to the trend known as the feminization of poverty. We do not wish to imply that changes in income that take a woman and her children below the poverty threshold are necessarily the only important issues. If one woman's annual income plummeted by $10,000 to a level $1 above the poverty line while another woman's income dipped by only $100 but took her below the poverty line, we would be loath to judge the latter loss as more serious than the former (or vise versa). Nonetheless, counts of individuals above and below the poverty threshold are useful, though crude, indexes of economic well-being and often the ones used to target government welfare policies. Thus, this study of the feminization of poverty counts only income changes that cross the poverty threshold and change the poverty counts. It is important to point out, though, that we are not interested here in merely temporary dips in income below some threshold but rather poverty that exhibits some persistence. To check the robustness of our conclusions to the selection of the threshold we vary the income level that defines poverty by +- 25 percent, leaving the study of the size of income changes and utility-based welfare changes to future work. As we emphasize throughout this paper, persistent poverty among women is largely tied to marital status and family structure. The next section of this paper summarizes evidence from micro panel data on the race differences in the flows into and out of poverty by women heads of households with children. Section III presents our theoretical framework for analyzing the poverty experience of women -- emphasizing the joint roles played by chance, choice, and exogenous background factors in the determination of family structure. Section IV presents corresponding estimated multivariate hazard functions for divorce and remarriage and their relationship to entry into and exit from poverty. The focus is on exogenous factors, including both welfare generosity and demographics. We conclude by conjecturing that (at least through the year 2000) poverty will be defeminized.

Koford, Kenneth J.

PD January 1987. **TI** The Natural Rate in a Share Economy. **AA** California Institute of Technology and the University of Delaware. **SR** Caltech Social Science Working Paper: 631; Division of Humanities and Social Sciences, 228-77, California Institute of Technology, Pasadena, CA 91125. **PG** 21. **PR** No Charge. **JE** 023, 821, 824. **KW** Share Economy. Natural Rate. Unemployment. NAIRU. Search Model. Wage Economy.

AB Will the natural rate of unemployment be lower in the share economy described by Martin Weitzman than in a wage economy? We examine this question for a search economy with an equilibrium unemployment rate, a version of Salop's (1979) quits model. Equilibrium unemployment is the same in both economies. We also examine firms' short-run adjustment to shocks. Share-economy firms adjust output less than wage-economy firms for both demand shocks and labor-supply shocks. Depending on whether rapid output adjustment is stabilizing, a share economy may be more or less stable than a wage economy.

Korosi, Gabor

PD November 1986. **TI** A Comparison of LISREL and PLS Estimation. **AA** University of Bonn. **SR** Universitat Bonn Sonderforschungsbereich 303 - Discussion Paper: B-57; Sonderforschungsbereich 303 an der Universitat Bonn, Adenauerallee 24-42, D-5300 Bonn 1, DEUTSCHLAND. **PG** 17. **PR** No Charge. **JE** 211. **KW** Latent Variable Model. Monte Carlo Experiments. Estimation Concepts. Latent Variable Model. Non-Observable Variables. MLE.

AB Economic theories, models often use non-observable variables. Several estimating techniques have been developed for different latent variable models. This paper compares the properties of two alternative estimation techniques for latent variable models by Monte Carlo experiments. LISREL is a maximum likelihood estimation method, while PLS is based on least squares principle.

Kotlikoff, Laurence

TI Can People Compute? An Experimental Test of the Life Cycle Consumption Model. **AU** Johnson, Stephen; Kotlikoff, Laurence; Samuelson, William.

Krehbiel, Keith

TI Collective Decision-Making and Standing Committees: An Informational Rationale for Restrictive Amendment Procedures. **AU** Gilligan, Thomas W.; Krehbiel, Keith.

Krelle, Wilhelm

PD 1985. **TI** Technischer Fortschritt und Wachstum. **AA** University of Bonn. **SR** Universitat Bonn Sonderforschungsbereich 303 - Discussion Paper; B-21; Sonderforschungsbereich 303 an der Universitat Bonn, Adenauerallee 24-42, D-5300 Bonn 1, DEUTSCHLAND. **PG** 26. **PR** No Charge. **JE** 111, 023. **KW** Economic Growth. Technical Progress.

PD 1985. **TI** Economic Structural Change and Long-Term-Fluctuations in Economic Growth. **AU** Krelle, W.; Dobrinsky, R.; Gajda, J.; Ross, H.; Szekely, I.; Welsch, H. **AA** University of Bonn. **SR** Universitat Bonn Sonderforschungsbereich 303 - Discussion Paper: B-20; Sonderforschungsbereich 303 an der Universitat Bonn, Adenauerallee 24-42, D-5300 Bonn 1, DEUTSCHLAND. **PG** 16. **PR** No Charge. **JE** 131, 132, 111, 212. **KW** Structural Change. Long-Term-Fluctuation. Economic Growth. Multicountry Model. World Model.

AB The last decade was and the next decades will still be periods of substantial structural economic change: newly industrialized nations emerged, East Asia became one of the leading economic centers, new products and new production technologies appeared, energy and environmental problems came to the fore and unemployment and short and long term cycles were much in evidence. Thus IIASA decided to look into the problems of structural change and long-term fluctuations. Since February of this year a joint Bonn-IIASA Research Group has been established at Bonn University which - in collaboration with research groups in the most important industrialized countries - should analyse and forecast economic structural change on the world level. This paper outlines the theoretical background and the special

approach of the Bonn-IIASA Research Project and shows how under these conditions long-term fluctuations may arise. In the second part of the paper some preliminary results of the Bonn-IIASA Research Project are presented.

PD 1985. **TI** The World Model in Detail. **AA** University of Bonn. **SR** Universitat Bonn Sonderforschungsbereich 303 - Discussion Paper: B-14; Sonderforschungsbereich 303 an der Universitat Bonn, Adenauerallee 24-42, D-5300 Bonn 1, DEUTSCHLAND. **PG** 32. **PR** No Charge. **JE** 132, 111, 123, 211, 431. **KW** Econometric World Model. Multi-Country Model. World Model.

AB The IIASA Research Program on Economic Growth and Structural Change, Revision October 1984, constitutes the basic framework for a combined effort of a Central Group (now operating at Bonn University) and Country Groups which should prepare and deliver economic forecasting models of their country. Since the whole project cannot wait till all Country Groups provide their models, the Central Group will construct aggregated and simplified country models in order to get a solution of the world model even if some Country Groups cannot deliver their models in time (or not at all). Each aggregated model will be substituted by the original model of the Country Group after it becomes available. The database for the aggregated models will be made available to the Country Groups. Their models should also be based on it or adapted to it in order to guarantee consistency.

PD May 1985. **TI** Konflikt von Ethik und Okonomie beim Umweltproblem? **AA** University of Bonn. **SR** Universitat Bonn Sonderforschungsbereich 303 - Discussion Paper: B-18; Sonderforschungsbereich 303 an der Universitat Bonn, Adenauerallee 24-42, D-5300 Bonn 1, DEUTSCHLAND. **PG** 12. **PR** No Charge. **JE** 722, 721.

PD September 1985. **TI** Exchange Rate Determination for Interdependent Economies. **AU** Krelle, Wilhelm; Welsch, Heinz. **AA** University of Bonn. **SR** Universitat Bonn Sonderforschungsbereich 303 - Discussion Paper: B-65; Sonderforschungsbereich 303 an der Universitat Bonn, Adenauerallee 24-42, D-5300 Bonn 1, DEUTSCHLAND. **PG** 26. **PR** No Charge. **JE** 431, 132, 212. **KW** Exchange Rates. World Model. Open Economy Macroeconomics.

AB Exchange rates are important economic variables, but (in a regime of flexible exchange rates) difficult to predict. In the short run, they are statistically almost pure chance variables, see Granger and Morgenstern (1970). Otherwise it would be possible to make sure profits by using the exchange rate equation as forecasting device. As a rule, capital flows are very volatile, and they, unfortunately, determine the exchange rates to a larger extent than the much larger, but relatively stable flows of exports and imports. In the case of exchange rates, "the tail wags the dog". But in the long run the economic forces prevail: there are tendencies towards purchasing power parity and towards interest rate parity. Thus we may hope to explain the yearly (or quarterly) averages of the exchange rates by economic theory and test this explanation by econometric methods. There are different approaches to exchange rate determination. They may be grouped into the monetary approach and the balance of payments approach. The first prevails in pure theory, the latter in econometric forecasting systems which try to simulate economies in detail and forecast exchange rate developments for practical economic policy. In the theoretical approach, two-country models prevail. Simultaneous determination of exchange rates in the context of multi-country-models is a complicated matter and has seldom been attempted. In the next paragraph we briefly review these approaches. Our own approach avoids the large effort of building a multi-country-model where the commodity flows, capital flows and the exchange rates are simultaneously determined, but considers capital flows and commodity flows implicitly. The exchange rate index of each currency with respect to all other currencies is explained on the basis of the portfolio- and balance of payments approach. After all exchange rate indices have been determined, the direct exchange rates between all currencies may be recovered by solving a system of simultaneous equations. This approach has the advantage of using only the two-country approach and concentrating on the exchange rates but nevertheless resulting in a fully interdependent simultaneous estimation of all exchange rates. The econometric results are satisfactory and sometimes even very good, at least better than the results of other models which try to explain exchange rates simultaneously.

PD August 1986. **TI** Operations Research - Ruckblick und einige Gedanken zur Weiterentwicklung. **AA** University of Bonn. **SR** Universitat Bonn Sonderforschungsbereich 303 - Discussion Paper: B-72; Sonderforschungsbereich 303 an der Universitat Bonn, Adenauerallee 24-42, D-5300 Bonn 1, DEUTSCHLAND. **PG** 22. **PR** No Charge. **JE** 031. **KW** Operations Research.

AB A short history of operations research (in German).

PD September 1986. **TI** v. Thunen- Vorlesung Verein fur Socialpolitik. **AA** University of Bonn. **SR** Universitat Bonn Sonderforschungsbereich 303 - Discussion Paper: B-71; Sonderforschungsbereich 303 an der Universitat Bonn, Adenauerallee 24-42, D-5300 Bonn 1, DEUTSCHLAND. **PG** 33. **PR** No Charge. **JE** 031, 131. **KW** von Thunen. Natural Wage Rate. Zeitgeist. Kondratieff Cycles.

AB The von Thunen lecture deals first with Thunen's idea of a "natural wage rate", different from the marginal product of labor. It is shown that this "natural rate" may be interpreted as a guide line for redistribution of income. "Equity" in redistribution as well as in other fields of economics cannot be defined once and forever. This concept is subject to the "Zeitgeist" and changes with it. Examples are given for it. Part of the "Zeitgeist" is the degree of activity in a population, a latent variable. It is extracted from indicators, and it is shown that it has a sinosodial shape. This would explain the long term Kondratieff waves.

PD November 1986. **TI** The Future of the World Economy. Main Results of the Research Project. **AA** University of Bonn. **SR** Universitat Bonn Sonderforschungsbereich 303 - Discussion Paper: B-74; Sonderforschungsbereich 303 an der Universitat Bonn, Adenauerallee 24-42, D-5300 Bonn 1, DEUTSCHLAND. **PG** 87. **PR** No Charge. **JE** 132, 211, 111, 123.

KW Economic Development. Structural Change. World Model. World Economy.
AB We are concerned with medium term forecasts of the trend of economic growth and structural change on the world level, i.e. with forecasts till the year 2000. These are conditional forecasts, of course; we are no prophets. The conditions are assumptions on the future time paths of the driving forces of economic growth. They depend on the success of the different governments to create favorable economic conditions within their countries (or in the case of CMEA-countries: to organize the economy efficiently) and to take advantage of world trade and international division of labor. Given the size and development of these driving forces we may estimate the future development of GDP or NMP, its sectoral composition, exports and imports and their commodity composition, the general price level, the price levels of groups of commodities and the exchange rates by means of a world model which consists of linked national models (or in the case of developing countries: models for groups of countries). The countries and groups of countries considered in the project are given in appendix 1. The model is reproduced in appendix 2.

PD November 1986. **TI** Growth, Decay, and Structural Change. **AA** University of Bonn. **SR** Universitat Bonn Sonderforschungsbereich 303 - Discussion Paper: B-73; Sonderforschungsbereich 303 an der Universitat Bonn, Adenauerallee 24-42, D-5300 Bonn 1, DEUTSCHLAND. **PG** 36. **PR** No Charge. **JE** 131, 132, 211, 111. **KW** Economic Growth. Structural Change. World Model. Kondratieff Cycles.
AB This paper provides the "philosophical background" of the Bonn-IIASA Research Project. The industrial revolution where we are living in is a unique period in human history and will lift mankind to a new, better life. Some nations have lead the way, the others will follow with some time lag. Thus income distribution on the world scale will inevitably become more uneven for quite a while. But in historical perspective this will be a transitory phase. Superimposed to this long term trend there are long term Kondratieff type cycles of economic activity. We identified these cycles by using indicators and looking for the principal components and found that the main driving forces of economic growth (the rate of technical progress and the savings ratio) show sinosodial fluctuations of a time length between 30 and 40 years. We are now shortly behind the trough of a Kondratieff wave. Since our project is concerned with the economic development in the next 20 years we may assume that the driving forces of economic growth will not decrease as in the last 15 years but increase again though to different degrees. This assumption underlies our forecasts.

PD December 1986. **TI** Jean - Baptiste Say. **AA** University of Bonn. **SR** Universitat Bonn Sonderforschungsbereich 303 - Discussion Paper: B-76; Sonderforschungsbereich 303 an der Universitat Bonn, Adenauerallee 24-42, D-5300 Bonn 1, DEUTSCHLAND. **PG** 20. **PR** No Charge. **JE** 031. **KW** Biography.
AB A biography of the economist, Jean-Baptiste Say (in German).

PD January 1987. **TI** Die Zukunft der Weltwirtschaft. **AA** University of Bonn. **SR** Universitat Bonn Sonderforschungsbereich 303 - Discussion Paper: B-75; Sonderforschungsbereich 303 an der Universitat Bonn, Adenauerallee 24-42, D-5300 Bonn 1, DEUTSCHLAND. **PG** 16. **PR** No Charge. **JE** 031, 110. **KW** World Model.

Kreps, David M.

TI Reputation and Multiple Opponents I: Identical Entrants. **AU** Fudenberg, Drew; Kreps, David M.

TI On the Robustness of Equilibrium Refinements. **AU** Fudenberg, Drew; Kreps, David M.; Levine, David K.

PD December 1986. **TI** Structural Consistency, Consistency and Sequential Rationality. **AU** Kreps, David M.; Ramey, Garey. **AA** Stanford University. **SR** Stanford Institute for Mathematical Studies in the Social Sciences (Economics Series) Technical Report: 488; Institute for Mathematical Studies in the Social Sciences, Encina Hall, Fourth Floor, Stanford University, Stanford, CA 94305. **PG** 33. **PR** $4.00. **JE** 026, 022. **KW** Extensive Form Games. Game Theory. Nash Equilibrium. Perfect Equilibrium. Sequential Equilibrium. Rationality.
AB In extensive games, every action, including actions that are taken out of equilibrium, should be optimal according to some beliefs as to what has happened so far and what will happen in the future. This general philosophy is adopted by Kreps and Wilson in "Sequential Equilibrium" (1982), and is made formal by the conjunction of two technical conditions: Beliefs about past actions should be consistent, and those beliefs together with the equilibrium strategy should be sequentially rational, which presumes that, whatever defections from the equilibrium have occurred in the past, players anticipate no further defections in the future. It is asserted in Kreps and Wilson that consistent beliefs will be structurally consistent, which means that, at each information set, beliefs will be derived from Bayes' rule and some single strategy for all the players. This is incorrect. Moreover, one might hope that the single strategy which rationalizes beliefs at a given information set does not contradict the supposition of no further defections after the information set. This is impossible. Suppose that one asks instead that beliefs out-of-equilibrium are rationalized by some "convex combination" of hypotheses as to how play has proceeded so far, where each of these hypotheses does not contradict the hypothesis of no further defections: we call this convex structural consistency. Consistent assessments are always compatible with convex structural consistency. But convex structural consistency introduces correlation into out-of-equilibrium hypotheses concerning the actions of opponents. This sort of correlation is "natural" if one adopts the philosophical program of Selten's perfection (1975), but it is somewhat alien to the usual philosophy of Nash equilibrium. In this paper, we present and discuss all these issues.

Kreuter, Beate

PD 1986. **TI** Zur Effizienz von Organisationsstrukturen. **AA** University of Bonn. **SR** Universitat Bonn Sonderforschungsbereich 303 -

Discussion Paper: D-3; Sonderforschungsbereich 303 an der Universitat Bonn, Adenaueralle 24-42, D-5300 Bonn 1, DEUTSCHLAND. **PG** 68. **PR** No Charge. **JE** 512, 511.

Krishna, Kala

PD March 1987. **TI** High Tech Trade Policy. **AA** Department of Economics, Harvard University. **SR** National Bureau of Economic Research Working Paper: 2182; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PR** $2.00. **JE** 421, 422, 411, 431. **KW** Trade Policy. Network Externalities. Expectations. Complementary Goods. GATT.

AB This paper analyzes the role of network externalities and expectations about them in the formulation of trade policy. Their effects are studied in duopoly situations when products are compatible and when they are incompatible and when multimarket effects are possible. Network externalities and expectations regarding the size of the network affect optimal trade policy in three ways. First, the presence of expectations effects creates a role for policy if there are differences between the way the externalities operate and expectations about how they operate. Second, when goods are compatible, the existence of network externalities can make goods complementary which reverses the direction of optimal policy. Third, since multimarket effects occur naturally with network externalities and compatible products, purely domestic policies, which are legal under GATT, can have international profit shifting effects which may be in the national interest.

Krueger, Anne O.

PD March 1987. **TI** The Importance of Economic Policy in Development: Contrasts Between Korea and Turkey. **AA** Department of Economics, Duke University. **SR** National Bureau of Economic Research Working Paper: 2195; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PR** $2.00. **JE** 111, 112, 121, 045. **KW** Korea. Turkey. Economic Growth. Savings Rate. Gross National Product.

AB In the mid-1950's, Turkey was a much richer country than Korea. With about the same population, Turkish Gross National Product was about three times that of Korea, Turkish exports were fifteen times those of Korea, and the Turkish savings rate was much higher than Korean. By 1980, the situation was dramatically reversed, as Turkish income was 40 percent below Korea's, Turkish exports were less than one-fourth those of Korea and the Turkish savings rate was about two-thirds of Korea's. This paper examines the variables that affected economic growth and shows the critical importance of the different policy choices in the two countries.

Kurz, Mordecai

PD October 1986. **TI** Competition, Non-Linear Pricing and Rationing in Credit Markets. **AA** Stanford University. **SR** Stanford Institute for Mathematical Studies in the Social Sciences (Economic Series) Technical Report: 492; Institute for Mathematical Studies in the Social Sciences, Encina Hall, Fourth Floor, Stanford University, Stanford, CA 94305. **PG** 42. **PR** $4.00. **JE** 022, 310. **KW** Credit. Bankruptcy. Bankruptcy Insurance. Deposits. Borrowers.

AB The paper examines the properties of competition in the market for credit when the lender must bear the risk of default by the borrower. In the formal model there are many borrowers and many depositors with an intermediary who lends the depositors funds to the borrowers but must bear the risk of default. Each borrower provides some of his own equity (i.e. collateral) and, to protect the depositors, the intermediary must also have some equity capital. When taking into account the possibility of default by the intermediary, it is shown that a competitive equilibrium will often require rationing. The characteristics of rationing equilibria are stated and it is shown that the intermediary will resist, in equilibrium, offers of a higher interest rate by the rationed out borrowers since higher interest rates will induce a reduction in the collateral offered by all the borrowers. This will reduce the expected profits of the intermediary. These results supplement earlier papers in which equilibrium in credit markets resulted in non-linear pricing but without an explicit rationing constraint.

Kydland, Finn E.

TI Intertemporal Preferences and Labor Supply. **AU** Hotz, V. Joseph; Kydland, Finn E.; Sedlacek, Guilherme.

Ladd, Helen F.

TI City Taxes and Property Tax Bases. **AU** Bradbury, Katharine L.; Ladd, Helen F.

Landau, Henry

TI Validating Hiring Criteria. **AU** Weiss, Andrew; Landau, Henry.

Lang, Kevin

PD January 1987. **TI** Neoclassical and Sociological Perspectives on Segmented Labor Markets. **AU** Lang, Kevin; Dickens, William T. **AA** Lang: School of Social Sciences, University of California, Irvine. Dickens: Department of Economics, University of California, Berkeley. **SR** National Bureau of Economic Research Working Paper: 2127; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PR** $2.00. **JE** 821, 812. **KW** Labor Market. Segmented Economy. Neoclassical Theory.

AB Neoclassical theory has been misrepresented in the segmented economy literature. Consequently, most tests of "structural" vs. "neoclassical" models are inadequate. Moreover, segmented economy theorists have concentrated on the least significant departures of segmented models from neoclassical economics. In fact, neoclassical economists have developed elements of a segmented labor market model which is similar to the segmented economy theories. We sketch this model and argue that the neoclassical model gives a precise meaning to the concept of dual or segmented labor markets but does not suggest that a classification system for job characteristics must rely on a single dimension.

PD March 1987. **TI** Why Was There Mandatory

Retirement?
or the Impossibility of Efficient Bonding Contracts. **AA** Department of Economics, University of California, Irvine. **SR** National Bureau of Economic Research Working Paper: 2199; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PR** $2.00. **JE** 821, 822, 824, 825. **KW** Hours Constraints. Mandatory Retirement. Worker Shirking. Efficient Labor Market Contract.
AB Lazear has argued that hours constraints, in general, and mandatory retirement, in particular, form part of an efficient labor market contract designed to increase output by inhibiting worker shirking. Since the contract is efficient, legislative interference is welfare reducing. However, in any case where bonding is costly, the hours constraints will not be chosen optimally. Although it is theoretically possible that bonding is costless, in this case the earnings profile is indeterminate and we should never observe monitoring aimed at reducing shirking. It therefore appears that bonding should be modelled as costly. If so, the role of policy depends on the source of bonding costs, the set of feasible contracts and the policy options which are available to government.

Laroque, Guy

TI On Competitive Cycles in Productive Economies. **AU** Benhabib, Jess; Laroque, Guy.

Lawrence, Colin

PD August 1986. **TI** Spot and Forward Foreign Exchange, Risk and Stochastic Policy. **AU** Lawrence, Colin; Wheatley, Simon. **AA** Lawrence: Graduate School of Business, Columbia University. Wheatley: School of Business, University of Washington. **SR** Columbia First Boston Series in Money, Economics and Finance Working Paper: FB-86-33; First Boston Series, Graduate School of Business, Columbia University, New York, NY 10027. **PG** 36. **PR** $5.00 academics and non-profit institutions; $6.00 corporations (add $1.00 outside United States, Canada and Puerto Rico). **JE** 431, 023, 520, 311. **KW** Consumption Risk. Equilibrium Models. Interest Arbitrage. Monetary Policy. Central Banking. Capital Asset Pricing. Exchange Rates. Forward Rates. Risk Premia.
AB This paper tests for the existence of time varying risk premia embedded in forward exchange rates using a simple version of the consumption based asset pricing model. Time series of consumption risks are estimated over the sample period 1973-3 to 1985-5 in 13 countries. The restrictions imposed by the consumption based asset pricing model are tested. There is a significant relationship between speculative profits on foreign exchange markets and the estimated consumption risks. The restrictions imposed by the asset pricing model cannot be rejected. A more restrictive model of Lucas (1982) is estimated and although the restrictions cannot be rejected, there is no significant relationship between speculative profits and estimates of consumption risks (associated with relevant second moments of monetary policies).

PD September 1986. **TI** Scale Economies in Commercial Banks Revisited: Do the Findings Make Sense? **AU** Lawrence, Colin; Shay, Robert P. **AA** Columbia Business School. **SR** Columbia First Boston Series in Money, Economics and Finance Working Paper: FB-86-31; First Boston Series, Graduate School of Business, Columbia University, New York, NY 10027. **PG** 22. **PR** $5.00 academics and non-profit institutions; $6.00 corporations (add $1.00 outside United States, Canada and Puerto Rico). **JE** 312, 611, 621, 022. **KW** Economies of Scale. Commercial Banking. Structural Change. Production Function Banking. Banking Technology.
AB The paper is an empirical investigation of the existence of scale economies using Functional Cost Analysis data over the period 1979-82. The findings indicate that previous findings of scale economies may be biased by different technologies and product mix when banks of all sizes are pooled together. Scale economies are more pronounced and occur more frequently among branch rather than unit banks. We found that the degree of automation as measured by ATM presence or EFT intensity did not contribute significantly to larger scale economies.

PD October 1986. **TI** The Composition of Investment Spending and the Term Structure of Interest Rates Theory and Preliminary Evidence. **AA** Columbia University, Graduate School of Business. **SR** Columbia First Boston Series in Money, Economics and Finance Working Paper: FB-86-34; First Boston Series, Graduate School of Business, Columbia University, New York, NY 10027. **PG** 34. **PR** $5.00 academics and non-profit institutions; $6.00 corporations (add $1.00 outside United States, Canada and Puerto Rico). **JE** 311, 313, 520, 131, 132. **KW** Capital Markets. Interest Rates. Term Structure. Time to Build. Investment. VAR. Arbitrage.
AB This paper presents an extension of the Hall (1977) hypothesis that short term interest rates and not long term rates should affect investment spending. We show that in a multi period gestation model, arbitrage in capital markets implies a particular set of cross correlations between the term structure of interest rates and the composition of investment. Using VAR simulations, it is shown that the data adequately fits the theory. Term structure innovations can account for much of the erratic behavior in investment composition over the 1970-84 period.

Lazear, Edward P.

PD February 1987. **TI** Lump-Sum Payments. **AA** University of Chicago and Hoover Institution, Stanford University. **SR** Stanford Hoover Institute Working Paper in Economics: E-87-8; Domestic Studies Program Working Paper Series, Hoover Institution, Stanford University, Stanford, CA 94305. **PG** 32. **PR** No Charge. **JE** 830, 824, 821. **KW** Bonuses. Wages. Measurement of Compensation. Labor Compensation. Collective Bargaining Agreements.
AB Lump-sum payments have become a significant component of labor compensation, with 26 per cent of collective bargaining agreements in 1986 containing provisions for such payments. The importance of lump-sum payments creates conceptual and measurement issues for researchers who want to study labor supply and demand. Do lump-sum payments enter the calculations in the same way as wages? Should they be amortized over some longer period to obtain a corrected wage rate? Are

they like fringe benefits? Does the amount that a worker accrues equal the amount that a firm pays? A general result is that the BLS should report lump-sums in the same way that pensions are reported. Additionally, accruals, the value relevant to workers and labor supply decisions, are understated by observed payments, the value relevant to firms and labor demand decisions. Finally, lump-sums should not be amortized over any period, but instead should be reported when they are paid.

Le, Van Cuong

PD November 1986. **TI** Relative Lags in a Macroeconometric Model. **AU** Le, Van Cuong; Malgrange, Pierre. **AA** CEPREMAP. **SR** CEPREMAP Discussion Paper: 8625; CEPREMAP, 142 rue du Chevaleret, 75013 Paris, FRANCE. **PG** 14. **PR** $20.00 FF. **JE** 211. **KW** Macroeconometric Model. Lag. Hierarchy. Stability. Trend.

AB The paper consists of an investigation on the dynamical hierarchies implicit in a macroeconometric model. A concept of lag different from the concept of mean lag is used which aims at describing strong trends in the system, leaving aside short run fluctuations. A numerical illustration is then given on a reduced version of the French quarterly model METRIC. (in French).

Lebow, David

TI Savings, Commodity Market Rationing and the Real Rate of Interest in China. **AU** Feltenstein, Andrew; Lebow, David; van, Wijnbergen Sweder.

Lee, Kevin

PD February 1987. **TI** An Empirical Investigation of the Frequency of Industrial Wage Change in the U.K. **AA** University of Cambridge. **SR** London School of Economics Centre for Labour Economics Discussion Paper: 271; Centre for Labour Economics, London School of Economics, Houghton Street, London WC2A 2AE, U.K. **PG** 46. **PR** No Charge. **JE** 824, 831, 832, 821, 212, 122. **KW** Wages. Contracts. Bargaining. Britain. Negotiation. Labor Contracts.

AB The paper provides support for a framework for wage-setting behaviour in the United Kingdom based on open-ended contracts that are reset when the net gains of doing so are positive. Comparison of an OLS analysis of the aggregate probability of negotiation over time and a logit analysis of the timing of negotiations based at the level of the decision-maker highlights the importance of accounting for the pattern of past settlements. The analysis demonstrates that both the net gains to be made in negotiations and the environment in which bargaining takes place influence the frequency of renegotiation.

Leininger, Wolfgang

TI A Note on the Relation Between Discrete and Continuous Games of Perfect Information. **AU** Hellwig, Martin; Leininger, Wolfgang.

PD January 1987. **TI** Strategic Equilibrium in Sequential Games. **AA** University of Bonn. **SR** Universitat Bonn Sonderforschungsbereich 303 - Discussion Paper: A-94; Sonderforschungsbereich 303 an der Universitat Bonn, Adenauerallee 24-42, D-5300 Bonn 1, DEUTSCHLAND. **PG** 22. **PR** No Charge. **JE** 026. **KW** Sequential Equilibrium. Strategic Equilibrium. Credibility. Sequential Games.

AB We propose a refinement of the by now widely used solution concept of 'sequential equilibrium' (Kreps and Wilson) that is based on strategic considerations concerning the order of play and the set of all sequential equilibria of a given game. It has been noted before that a sequential equilibrium of a game may be sustained by 'implausible' yet consistent beliefs off the equilibrium path. The reason is that sequential rationality is solely based on backwards inductive reasoning which enforces the principle that any decision taken by a player in any branch of the game tree has to be part of an optimal strategy for the remainder of the game. But because of the presence of imperfect information the "best reply" - property of a strategy may depend on an assessment of the likelihood of events in the game about which the player(s) are uncertain. Off a proposed equilibrium path such beliefs are virtually unrestricted as they concern events of probability zero (given the proposed equilibrium strategies) and, hence, cannot directly influence expected pay-off calculations of players. As Grossman and Perry note this enables players to establish credibility for too many threats and can sustain credible equilibria through incredible beliefs. The present analysis focuses on out of equilibrium moves (this statement requires that a certain equilibrium has been proposed) that are compatible with another sequential equilibrium of the game and argues that if such moves occur a prominent role should be assigned to beliefs that support the equilibria with which the given out of equilibrium move is compatible. We define "credibility" of such moves in an inductive way and reject any sequential equilibrium of a game as strategically not "stable" if at least one player can deviate from it ("to another equilibrium") by a credible out of equilibrium move. A sequential equilibrium in which no player has such a move is called a strategic equilibrium. The main result is that for any extensive form with generic pay-offs strategic equilibrium exists. The paper is organized as follows: Section II motivates our analysis heuristically by looking at the backwards induction principle under perfect information. Section III develops a formal definition of strategic equilibrium for games with perfect recall and provides an existence proof. The last section contains a discussion of the relationship to other solution concepts; in particular to the notion of 'perfect sequential equilibrium'.

Leon, Hyginus Lambert

TI Testing for Heterogeneous Parameters in a Least Squares Framework. **AU** Dutta, Jayasri; Leon, Hyginus Lambert.

Leonard, Herman B.

PD December 1986. **TI** Amnesty, Enforcement and Tax Policy. **AU** Leonard, Herman B.; Zeckhauser, Richard J. **AA** Kennedy School of Government, Harvard University. **SR** National Bureau of Economic Research Working Paper: 2096; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PR** $2.00. **JE** 916, 323, 324. **KW** Amnesty. Taxation. Tax Policy. Enforcement. State Revenue. Federal Government. Tax Evasion.

AB Amnesties are widely used in society to rehabilitate past sinners, to collect resources, such as library books, that would otherwise be unrecoverable, and to make enforcement easier by reducing the ranks of delinquents. Over the past four years, tax amnesties have emerged as a major instrument of state revenue policy. Twenty states conducted amnesties. Record collections were made by New York ($360 million) and Illinois (income tax amnesty dollars 3.4 per cent of collections). Amnesties took in dollars that would probably have escaped otherwise, and tax rolls were bolstered. Tax amnesties also have costs, however. They may anger honest taxpayers, diminish the legitimacy of the tax system by pardoning past evasion, and decrease compliance by making future amnesties seem more likely. Should the federal government, aswirl in tax reform and suffering from an estimated $100 billion tax evasion problem, now offer an amnesty of its own? What type of federal program would most likely be offered? What would it be likely to accomplish? State tax amnesties have generally been coupled with enhanced enforcement efforts, a feature intended to preserve the legitimacy of the tax system. The amnesty/enforcement combination twists the penalty schedule, lowering it now raising it later, in that way encouraging prompt payment. With no past sins to hide, future compliance also becomes less costly, hence more probable. Any federal amnesty, we predict, would be accompanied by a strengthening of enforcement. After reviewing the state experience, we speculatively estimate that a federal amnesty/enforcement program might collect $10 billion initially and yield a continuing increment to annual revenues on the order of $10 billion.

Leonard, Jonathan S.

PD March 1987. **TI** Carrots and Sticks: Pay, Supervision and Turnover. **AA** School of Business, University of California, Berkeley. **SR** National Bureau of Economic Research Working Paper: 2176; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PR** $2.00. **JE** 824, 512, 513, 825. **KW** Wages. Efficiency Wage Model. Wage Differentials. Turnover. Self Supervision.

AB Large and persistent differences across industries in wages paid for given occupations have commonly been observed. Recently, the efficiency wage model (EWM) has been advanced as an explanation for these wage differentials. The shirking version of the EWM assumes a trade-off between self-supervision and external supervision. The turnover version assumes turnover is costly to the firm. Variation across firms in the cost of monitoring/shirking or turnover then are hypothesized to account for wage variation across firms for homogeneous workers. This paper presents empirical evidence of the trade-off of wage premiums for supervisory intensity and turnover. A new sample of 200 firms in one sector in one state in 1982 is analyzed. Little evidence is found to support either version of EWM. The substantial variation in wages for narrowly defined occupations across firms remains largely unexplained.

Levine, David K.

TI On the Robustness of Equilibrium Refinements. **AU** Fudenberg, Drew; Kreps, David M.; Levine, David

Levine, Ross

PD December 1986. **TI** An International Arbitrage Pricing Model With PPP Deviations. **AA** International Finance Division of the Board of Governors of the Federal Reserve System. **SR** Board of Governors of the Federal Reserve System International Finance Discussion Paper: 294; International Finance Division, Board of Governors of the Federal Reserve System, 20th and C Street, Washington, D.C. 20551. **PG** 36. **PR** No Charge. **JE** 441, 442, 431, 313. **KW** Arbitrage. PPP. Purchasing Power Parity. Forward Exchange Rate. Risk Premium. Volatility. Currency Substitution. Capital Market Segmentation. Asset Pricing.

AB This paper develops an intertemporal, international asset pricing model for use in applied theoretical and empirical research. An important feature of the model is that it incorporates both stochastic inflation rates and stochastic Purchasing Power Parity deviations (PPP). The model derives the equilibrium real return on assets, and obtains empirically tractable reduced form equations which can be used to examine such issues as capital market segmentation, currency substitution, exchange rate volatility, and the forward exchange market's risk premium. Mechanically, the model begins as a system of stochastic differential equations which describe the dynamic paths of a vector of state variables, prices, and PPP deviations. The state variables' intertemporal development determines the production and credit opportunities, and provides the model's fundamental dynamic nature. The model is shown to be consistent with the domestic-general equilibrium asset pricing models of Cox, Ingersoll, and Ross (1985) and Brock (1982). The model is applied to pricing forward exchange, and an empirically tractable equation of the risk premium is derived which will allow researchers to uncover the risk premium's economic determinants.

Levy, Anat

PD October 22, 1986. **TI** Individual and Collective Wage Bargaining. **AU** Levy, Anat; Shapley, Lloyd S. **AA** Levy: Rutgers University. Shapley: University of California at Los Angeles. **SR** University of California at Los Angeles Department of Economics Working Paper: 420; Department of Economics - University of California at Los Angeles, Los Angeles, CA 90024. **PG** 37 + ii. **PR** $2.50. **JE** 026, 832, 831, 821. **KW** Wages. Unions. Collective Bargaining. Wage Bargaining. Oceanic Games. Cooperative Games.

AB Wage negotiation is modelled as an "oceanic" game. The employer and the union or unions (if any) are represented as atomic players while the unorganized workers are represented as a non-atomic continuum. For simplicity, the workers are assumed to be homogeneous in the employer's production function, but they are heterogeneous in their outside opportunities. The total surplus that each coalition of players is capable of generating serves as a measure of its bargaining power. (Thus, any coalition that does not include the employer is powerless.) A cooperative game in characteristic-function form is thereby defined, and its Shapley-value solution, which averages the marginal surpluses of the players in all

possible alignments, distributes the maximum available surplus in a way that reflects these coalitional potentials and yields a plausible "negotiated" wage settlement. Several different levels of unionization are examined and contrasted with the aid of numerous diagrams and examples. It is noteworthy that the present approach is not tied to any particular version of the negotiatory process, but derives solely from the underlying economic data.

Levy, Dominique

TI Labor Values and the Imputation of Labor Contents. **AU** Dumenil, Gerard; Levy, Dominique.

Lewis, Alain A.

PD October 1986. **TI** Structure and Complexity: The Use of Recursion Theory in the Foundations of Neoclassical Mathematical Economics and the Theory of Games. **AA** Cornell University. **SR** Stanford Institute for Mathematical Studies in the Social Sciences (Economic Series) Technical Report: 493; Institute for Mathematical Studies in the Social Sciences, Encina Hall, Fourth Floor, Stanford University, Stanford, CA 94305. **PG** 175. **PR** $4.00. **JE** 213, 214, 026. **KW** Recursion Theory. Computability. Games. Mathematical Economics. Turing Machines. Church's Thesis.

AB In these lectures, we first survey the basic theory of computable functions beginning with the primitive recursive functions of K. Goden and continuing with Turing Machines, Church's Thesis, Recursive and Recursively Enumerable Sets. After the subject of the complexity of computable functions is addressed using the concept of the degrees of unsolvability as a measure of complexity, we provide several examples of the use of recursion-theoretic techniques in the theory of games and in the foundations of neo-classical mathematical economics, inclusive of Rabin's Theorem for recursively presented Gale-Stewart Games, Turing Degrees of Walrasian Models, and R.E. Simple Games.

Lewis, Tracy R.

PD February 11, 1987. **TI** Regulating a Monopolist with Unknown Demand. **AU** Lewis, Tracy R.; Sappington, David E. M. **AA** Lewis: University of California at Davis. Sappington: Bell Communications Research. **SR** University of California at Davis Economics Department Working Paper: 288; Department of Economics, University of California at Davis, Davis, CA 95616. **PG** 39. **PR** No Charge. **JE** 612, 613, 026. **KW** Regulation. Asymmetric Information. Mechanism Design. Monopoly. Regulatory Policy.

AB We analyze the design of regulatory policy when the firm has better information about demand than the regulator from the outset of their relationship. Such a situation is likely to arise, for example, when demand is determined by the quality or reliability of the good or service being offered, and the regulator cannot measure these characteristics at the time production takes place. We assume that the firm's cost structure is common knowledge and that monitoring of output is prohibitively costly. We find that when marginal costs of production increase with output, the firm can command no rents from its private information, and the first-best policy is feasible. In contrast, with declining marginal costs, a single price is always optimal under plausible assumptions about the relevant information asymmetry. Thus, major qualitative differences in the optimal regulatory policy arise when the firm's private information concerns demand rather than costs.

Liang, J. Nellie

PD February 1987. **TI** An Empirical Conjectural Variation Model of Oligopoly. **AA** Board of Governors of the Federal Reserve System. **SR** Federal Trade Commission Bureau of Economics Working Paper: 151; Bureau of Economics, Federal Trade Commission, 6th and Pennsylvania Avenue NW, Washington, D.C. 20580. **PG** 48. **PR** No Charge. **JE** 611, 612, 212, 631. **KW** Conjectural Variation. Oligopoly. Cross Price Elasticities. Product Differentiation. Price Competition. Antitrust.

AB Price conjectural variations are estimated to measure the degree of price competition in a product differentiated oligopoly. The empirical model is a simultaneous equation system of product demand and price reaction functions in which own and cross price elasticities of demand are estimated in conjunction with price conjectural variations. Specifically, the price conjectural variations are estimated directly in the reaction functions rather than deduced indirectly from profit data. The empirical model is applied to pairs of ready-to-eat breakfast cereal products using brand data collected during the course of the antitrust case brought by the Federal Trade Commission in the 1970s against Kellogg, General Mills, and General Foods. The empirical results reject competitive brand pricing behavior in favor of independent or interdependent pricing. Further, the hypothesis of a unique consistent conjecture is rejected.

Lijuan, Ding

PD August 1986. **TI** On a Generalization of the Rado-Hall Theorem to Greedoids. **AU** Lijuan, Ding; Minyi, Yue. **AA** Lijuan: Beijing Institute of Technology. Minyi: Academica Sinica, Beijing. **SR** Universitat Bonn Sonderforschungsbereich 303 - Discussion Paper: 86434-OR; Sonderforschungsbereich 303 an der Universitat Bonn, Adenauerallee 24-42, D-5300 Bonn 1, DEUTSCHLAND. **PG** 14. **PR** No Charge. **JE** 213. **KW** Matroids. Greedoids. Rado-Hall Theorem.

AB Greedoids were introduced by Korte and Lovasz in as a generalization of matroids. In the same paper, many interesting examples were given which are greedoids but not matroids. As there is an important defining matroid property lacking in the definition of the greedoid, it seems that results in matroid theory are as a rule, rather difficult to generalize in greedoid theory. In 1983, Korte and Lovasz gave a generalization of the Rado-Hall theorem to greedoids. Their theorem is given under the condition that the related sets A1,., An are members of C'. However, we found that for examples given in their articles, C' = 0. As Rado's theorem is the key to several important min-max results and constructions in matroid theory, it seems that any improvement of the Korte and Lovasz theorem has its own meaning. It is our purpose in this paper to prove that the Rado-Hall theorem holds for greedoids under the condition that the related sets A1,., An are members of C

which is much larger than C'. From this we derive two theorems corresponding to some generalizations of the Rado-Hall theorem in matroid theory.

Ling, David C.

TI Real Estate and the Tax Reform Act of 1986. **AU** Hendershott, Patric H.; Follain, James R.; Ling, David C.

Lipietz, Alain

PD October 1986. **TI** State and Economy: Permanent and Conjunctural Aspects. **AA** CEPREMAP. **SR** CEPREMAP Discussion Paper: 8621; CEPREMAP, 142 rue du Chevaleret, 75013 Paris, FRANCE. **PG** 26. **PR** $20.00 FF. **JE** 053, 111, 320. **KW** State-*Corporatism. Marxism. Hegemony. State Economic* Intervention.

AB The two theories of State in Marxist tradition are first presented and articulated through the concept of hegemony. According to it, permanent involvment of the State in economy is analysed, then the peculiar forms corresponding to distinct regimes of accumulation. More specifically, the functions of the State in "monopolist" versus "corporatist" regulations are compared, outlining oppositions and similarities. The paper is concluded with the present crisis of both "inserted" and "corporatist" states.

Lo, Andrew W.

PD February 1987. **TI** Stock Market Prices Do Not Follow Random Walks: Evidence From A Simple Specification Test. **AU** Lo, Andrew W.; MacKinlay, A. Craig. **AA** Wharton School, University of Pennsylvania. **SR** National Bureau of Economic Research Working Paper: 2168; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PR** $2.00. **JE** 313, 212. **KW** Random Walk Hypothesis. Stock Market Returns. Stock Trading.

AB In this paper, we test the random walk hypothesis for weekly stock market returns by comparing variance estimators derived from data sampled at different frequencies. The random walk model is strongly rejected for the entire sample period (1962-1985) and for all subperiods for a variety of aggregate returns indexes and size-sorted portfolios. Although the rejections are largely due to the behavior of small stocks, they cannot be ascribed to either the effects of infrequent trading or time-varying volatilities. Moreover, the rejection of the random walk cannot be interpreted as supporting a mean-reverting stationary model of asset prices, but is more consistent with a specific nonstationary alternative hypothesis.

Lyons, Richard K.

PD December 1986. **TI** Tests of the Foreign Exchange Risk Premium Using the Expected Second Moments Implied by Option Pricing. **AA** Board of Governors of the Federal Reserve System. **SR** Board of Governors of the Federal Reserve System International Finance Discussion Paper: 290; Staff Studies Section, Division of Research and Statistics, Board of Governors of the Federal Reserve System, Washington, D.C. 20551. **PG** 38. **PR** No Charge. **JE** 431, 441, 313, 442. **KW** Exchange Rates. Risk Premium. Option Pricing. Time Varying Variance. ARCH. Expectations. Portfolio Balance.

AB This paper applies a new method to investigate the foreign exchange risk premium. The method is new in the sense that it utilizes the time-varying second moment expectations implied by foreign currency option pricing. The vast empirical literature on the risk premium generally neglects the role of time-varying second moments, in spite of their importance in assessing risk-return tradeoffs. In fact, this importance is borne out in the data: time-varying expectations generate valuable new evidence regarding both unbiasedness in the forward rate and portfolio balance models. Moreover, the results suggest that previous tests which assume constant second moments involve serious misspecification errors. The results also highlight the unreliability of the portfolio balance effects of sterilized intervention, in spite of the quantitative importance of expected return differentials.

MacDonald, Glenn M.

PD August 1986. **TI** Job Mobility in Market Equilibrium. **AA** University of Western Ontario, Rochester Center For Economic Research and Economics Research Center/NORC. **SR** Economics Research Center/NORC Discussion Paper: 86-13; Economics Research Center/NORC, 6030 S. Ellis, Chicago, IL 60637. **PG** 44. **PR** $2.00 Send requests to Librarian, NORC. **JE** 823, 821, 812. **KW** Job Mobility. Labor Mobility. Stochastic Mobility Theory.

AB This paper examines a model of job mobility generated by events specific to individual worker-firm pairings. Stochastic processes are used to specify the time path of both the value of a worker/firm match and that of the best available alternative. The paper reviews three general varieties of stochastic models and examines research done in this area to date. As indicated by the review of the literature, the need for a larger set of hypotheses is self-evident. The goal of this paper is to expand and unify the set of testable restrictions implied by stochastic mobility theory. The vehicle through which these improvements will be obtained is a very elementary stochastic mobility model in which both the value of the current match and that of the alternative vary over time. In Section 2 of the paper, the details of the model are given and in Section 3 the model's implications are explored. Section 4 considers empirical implementation of the model.

MacKinlay, A. Craig

TI Stock Market Prices Do Not Follow Random Walks: Evidence From A Simple Specification Test. **AU** Lo, Andrew W.; MacKinlay, A. Craig.

Mahoney, Patrick I.

PD January 1987. **TI** Responses to Deregulation: Retail Deposit Pricing from 1983 through 1985. **AU** Mahoney, Patrick I.; White, Alice P.; OBrien, Paul F.; McLaughlin, Mary M. **AA** Staff, Board of Governors of the Federal Reserve System. **SR** Board of Governors of the Federal Reserve System Staff Studies Paper: 151; Staff Studies Section, Division of Research and Statistics, Board of Governors of the Federal Reserve System, Washington, DC 20551. **PG** 29. **PR** Free (Limit 5 copies per person). **JE** 312, 311, 315, 611, 613.

KW Deposit Offering Rates. Deregulation. Financial Institutions. Banks. Thrifts. Interest Rate Ceilings.
AB The removal of interest rate restrictions on retail time deposits in October 1983 gave commercial banks and thrift institutions nearly complete freedom to set offering rates on retail accounts. This study examines the pricing of retail time deposits and money market deposit accounts by commercial banks and FSLIC-insured thrift institutions from October 1983 through December 1985 on an aggregate and an individual institution basis. The appendix provides a history of the regulation of deposit offering rates and a chronology of interest rate ceilings from 1933, when ceilings on deposit offering rates were established, through April 1, 1986, when all remaining ceilings were removed. In general, depository institutions responded to deregulation in a measured way, following various pricing strategies. The most striking regularity in the data was that thrift institutions, in the aggregate, consistently offered higher rates on all accounts -- especially on longer-term accounts -- than did commercial banks. The differences in the average offering rates between the two types of institutions on time accounts usually exceeded the 25-basis point thrift differential that had been part of the Regulation Q interest rate structure just before deregulation. Over most of the period studied, the average offering rates on most retail deposits at both types of institutions were below interest rates on market instruments of comparable maturity. Offering rates responded with varying lags to changes in market interest rates over the period studied, and the difference between offering rates and market interest rates varied considerably. Data on deposit flows showed that a steeper deposit yield curve enhanced flows into longer-term time deposits, demonstrating a role for pricing in the determination of the maturity distribution of deposit inflows. Deregulation did affect the liability structure of both sets of institutions, though not dramatically. Commercial banks increased the importance of retail deposits at the expense of managed liabilities and transaction accounts, whereas thrift institutions increased their reliance on managed liabilities. Offering rates of commercial banks and thrift institutions differed state by state. Although the average offering rates of thrift institutions generally exceeded those at commercial banks, analysis of data for individual institutions revealed a diversity of pricing strategies. Only in a few cases did an institution pay the highest rate on a deposit category for long, and no institution paid the highest rate on all deposit categories at any one time. In addition, individual institutions frequently adjusted their offering rates relative to their competitors, suggesting efforts to explore depositor response to changes in offering rates.

Malgrange, Pierre

TI Relative Lags in a Macroeconometric Model. **AU** Le, Van Cuong; Malgrange, Pierre.

Mankiw, N. Gregory

TI Assessing Dynamic Efficiency: Theory and Evidence. **AU** Abel, Andrew B.; Mankiw, N. Gregory; Summers, Lawrence H.; Zeckhauser, Richard J.

PD January 1987. **TI** The Adjustment of Expectations to a Change in Regime: A Study of the Founding of the Federal Reserve. **AU** Mankiw, N. Gregory; Miron, Jeffrey A.; Weil, David A. **AA** Mankiw: National Bureau of Economic Research, Cambridge. Miron: Department of Economics, University of Michigan. Weil: Department of Economics, Harvard University. **SR** National Bureau of Economic Research Working Paper: 2124; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PR** $2.00. **JE** 310, 042. **KW** Federal Reserve. Central Bank. Interest Rates. Monetary Regime.
AB The founding of the Federal Reserve System in 1914 led to a substantial change in the behavior of nominal interest rates. We examine the timing of this change and the speed with which it was effected. We then use data on the term structure of interest rates to determine how expectations responded. Our results indicate that the change in policy regime was rapid and that individuals quickly understood the new environment they were facing.

Marquardt, Jeffrey C.

PD February 1987. **TI** Deposit Insurance Assessments on Deposits at Foreign Branches of U.S. Banks. **AA** Division of International Finance, Board of Governors of the Federal Reserve System. **SR** Board of Governors of the Federal Reserve System International Finance Discussion Paper: 299; Division of International Finance Board of Governors of the Federal Reserve System, Washington, D.C. 20551. **PG** 29. **PR** No Charge. **JE** 311, 312. **KW** Deposit Insurance. Banks. FDIC. Deposit Insurance Assessment.
AB Under current law, domestic deposits of federally insured banks are subject to a 1/12th of one percent per annum insurance assessment, while foreign deposits are not. This paper examines the arguments for and against extending this assessment to foreign branch deposits of insured banks, which in the aggregate amount to more than $200 billion. These arguments are based on real or imagined effects on FDIC revenues, the competitive position of various types of United States banks, international lending, bank capital formation, the functioning of the international interbank markets, the general efficiency of resource allocation, and the "fairness" of assessment allocations. These arguments depend critically on assumptions about the incidence of an extension of the FDIC assessment. The arguments are individually evaluated under assumptions about likely incidence effects on loan and deposit customers in a three sector -- money center banks, foreign banks, and regional and smaller banks -- dollar banking system. In general, assuming all loan and deposit schedules are somewhat but not perfectly elastic in the neighborhood of equilibrium, the likely effects of an extension of the FDIC assessment can be summarized as follows: (1) slight increase in domestic deposit rates and volumes of United States and foreign-chartered banks; (2) slight decline in foreign branch deposit rates and volumes of United States-chartered and insured banks; (3) slight increase in deposit rates and volumes at foreign offices of foreign-chartered banks; (4) slight increase in interbank rates; and (5) slight increases in loan rates and a slight decline in the aggregate loan volume of the dollar banking system. The distribution of the decline in aggregate volume would depend on the elasticities of various loan demand functions. It is also

likely that the total deposits of the dollar banking system would decline slightly. The sectoral distribution of this effect would again depend on the elasticities of demand schedules.

Marshall, William J.

TI The Industrial Organization of Congress (or, Why Legislatures, Like Firms, are not Organized as Markets). **AU** Weingast, Barry R.; Marshall, William J.

Martin, Lawrence

TI The Structure of Simple General Equilibrium Models with Frictional Unemployment. **AU** Davidson, Carl; Martin, Lawrence; Matusz, Steven.

Martins, Ana Paula

TI Dynamic Factor Models of Consumption, Hours and Income. **AU** Altonji, Joseph G.; Martins, Ana Paula; Siow, Aloysius.

Mathewson, G. Franklin

PD December 1986. **TI** Is Exclusive Dealing Anti-Competitive? **AU** Mathewson, G. Franklin; Winter, Ralph A. **AA** Mathewson: University of Toronto. Winter: University of Toronto and National Fellow, Hoover institution. **SR** Stanford Hoover Institute Working Paper in Economics: E-86-76; Domestic Studies Program Working Paper Series, Hoover Institution, Stanford University, Stanford, CA 94305. **PG** 34. **PR** No Charge. **JE** 611, 612. **KW** Exclusive Dealing. Antitrust. Vertical Restraints. Retailers. Brand Competition. Retail Prices.

AB This paper analyses the competitive impact of exclusive dealing, the restriction placed on a retailer against carrying substitute brands. Exclusive dealing may allow a manufacturer to exclude a rival from a retail submarket. But with exclusive dealing contract offers, manufacturers compete through wholesale prices for the right to be selected by a retailer: Potential competition replaces actual competition as the disciplining force in the market. With exclusive dealing, the retail price of the successful manufacturer may fall and welfare rise, even when the market is monopolized.

Matusz, Steven

TI The Structure of Simple General Equilibrium Models with Frictional Unemployment. **AU** Davidson, Carl; Martin, Lawrence; Matusz, Steven.

McAfee, R. Preston

PD February 1986. **TI** Competition for Agency Contracts. **AU** McAfee, R. Preston; McMillan, John. **AA** Department of Economics, University of Western Ontario. **SR** University of Western Ontario Centre for Decision Sciences and Econometrics Technical Report: 10; The Centre for Decision Sciences and Econometrics, Department of Economics, Social Sciences Center, University of Western Ontario, London, Ontario, CANADA N6A 5C2. **PG** 29. **PR** No Charge. **JE** 022, 025, 026, 610, 511. **KW** Principal Agent. Contract Theory. Auction. Moral Hazard. Adverse Selection. Asymmetric Information. Incentives.

AB This paper introduces a market for the services of agents into a principal-agent model. The principal and the potential agents are risk neutral. The contract trades off adverse selection against moral hazard. In a broad range of circumstances, the optimal contract is linear in the outcome. In an incentive-compatible contract, the more able an agent is, the larger is his contractual share of his marginal output; thus a more able agent is induced to work at a rate closer to the first best. Despite the principal's ability to commit himself to a mechanism, the asymmetry of information leaves the selected agent with positive surplus.

McCallum, Bennett T.

PD February 1987. **TI** Money: Theoretical Analysis of the Demand for Money. **AU** McCallum, Bennett T.; Goodfriend, Marvin S. **AA** McCallum: Graduate School of Industrial Administration, Carnegie-Mellon University. Goodfriend: Federal Reserve Bank of Richmond. **SR** National Bureau of Economic Research Working Paper: 2157; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PR** $2.00. **JE** 311, 023. **KW** Money Demand. Representative Household. Uncertainty. Overlapping Generations. Cash-in-Advance.

AB This paper, prepared for the New Palgrave, attempts to summarize current mainstream views concerning the theory of money demand. A model is sketched in which a representative household is depicted as seeking to maximize utility over an infinite planning horizon, with each period's consumption and leisure appearing as arguments of the utility function. The household chooses to hold non-interest-bearing money, even in the presence of assets with positive pecuniary yields, because it facilitates transactions and thereby reduces the amount of time and/or energy required in the process of "shopping", i.e., acquiring goods to be consumed. Two distinct types of implied money-demand functions are derived: a "proper" demand function with arguments exogenous to the household and a "portfolio-balance" relationship that is more similar in specification to the type of equation that normally appears in the money-demand literature. One section of the paper briefly reviews the historical evolution of ideas pertaining to money-demand theory, and suggests that major contributors have included Marshall, Hicks, and Sidrauski. A final section considers ongoing controversies concerning the role of uncertainty, the use of overlapping-generations and cash-in-advance approaches, and the interpretation of empirical results apparently suggestive of extremely slow portfolio adjustments.

McConnell, Sheena

PD November 1986. **TI** Cyclical Fluctuations in Strike Activity. **AA** Princeton University. **SR** Princeton Industrial Relations Section Working Paper: 215; Department of Economics, Princeton University, Princeton, NJ 08544. **PG** 67. **PR** No Charge. **JE** 833, 831, 131. **KW** Strike Activity. Business Cycle. Labor Unions.

AB This paper uses a unique data set of contracts and strikes to address the old question of the relationship between the business cycle and strike activity. It also examines the factors that determine when strikes occur and proposes a new test of the recent private information

models of strikes. The data set contains over 7000 contracts covering both manufacturing and non-manufacturing industries for the twelve year period 1970 to 1981. Contrary to earlier findings there is no simple correlation between fluctuations in the business cycle and either the number of strikes, strike incidence or strike duration. However, once specific industry effects are controlled for then strike incidence but not strike duration varies procylically. As suggested by the Total Cost theory of strikes both demand conditions by industry and labor market conditions are important factors in determining strike activity. The level of demand by industry as proxied by the industry producer price index has a negative effect on strike incidence but a positive effect on strike duration. This opposite movement of strike incidence and strike duration which appears in this paper is not predicted by any of the theoretical models of strikes. Higher national unemployment reduces the probability of a strike, but it is regional unemployment and industry specific unemployment that have the greater negative effect on strike incidence. The recent private information models of strikes suggest that an important determinant of strikes is a variable observable to the firm but unobservable to the union. In this paper I assume that the firm can predict future demand conditions better than the union. In this case the difference between actual realized future prices and the forecasts of those prices made today can be used as a proxy for this unobservable variable. This paper shows that neither the level nor the variance of this residual has any significant effect on strike activity. However, both the variance of past prices and the variance of past unemployment have a significant positive effect on strike incidence. This suggests that some form of uncertainty is an important determinant of strikes.

McCormick, Barry

TI Housing Markets, Unemployment and Labour Market Flexibility in the UK. **AU** Hughes, Gordon; McCormick, Barry.

McElroy, Marjorie B.

TI Family Structure, Race, and the Feminization of Poverty. **AU** Kniesner, Thomas J.; McElroy, Marjorie B.; Wilcox, Stephen P.

McLaughlin, Mary M.

TI Responses to Deregulation: Retail Deposit Pricing from 1983 through 1985. **AU** Mahoney, Patrick I.; White, Alice P.; OBrien, Paul F.; McLaughlin, Mary M.

McMillan, John

TI Competition for Agency Contracts. **AU** McAfee, R. Preston; McMillan, John.

Melino, Angelo

TI The Response of Interest Rates to the Federal Reserve's Weekly Money Announcements: The "Puzzle" of Anticipated Money. **AU** Deaves, Richard; Melino, Angelo; Pesando, James E.

Meurer, Michael J.

PD November 1986. **TI** The Settlement of Patent Litigation. **AA** Department of Economics, Duke University. **SR** Duke Working Paper in Economics: 86-21; Working Papers Series, Department of Economics, Duke University, Durham, NC 27706. **PG** 72. **PR** No Charge. **JE** 916, 026, 621. **KW** Patents. Settlement Negotiation. Litigation. Civil Suit. Bargaining. Signalling. Innovations.

AB A substantial literature examining the process of litigation settlement has developed focusing on the question of why settlement negotiations break down resulting in litigation. Following Landes (1971), Gould (1973) and Posner (1974), most models explain litigation as the result of optimism on the part of the parties about their chance for success at trial. These papers were vague about how agents formed beliefs about the probable outcome of trial and the source of undue optimism. They were succeeded by the work of Bebchuk (1983), P'ng (1983), Salant (1984) and Reinganum and Wilde (1985) who model settlement agreements as sequential games played by parties holding private information about victory or damages at trial. The model of litigation settlement described in this paper departs from earlier work in two important ways. First, the value of the subject of litigation varies with the outcome of litigation and with settlement. As a result settlement might not be an efficient bargaining outcome even when the potential litigants have common information about the outcome of the potential trial. Second, the probability of the plaintiff winning the trial is made endogenous, leading to the insight that the government may have little control over the probability that a plaintiff wins a particular type of case. To illustrate the model the process of patent litigation and licensing will be discussed. A considerable amount of research has been undertaken recently studying the licensing of process innovations motivated by concerns for production efficiency (see Schmitz (1986), Gallini and Winter (1985) and Katz and Shapiro (1985)). My work serves to emphasise that patent licensing may also be motivated by a desire to avoid litigation. In fact a survey of patent holding firms revealed that the desire to avoid litigation is the most frequent reason given for licensing.

Michel, Philippe

TI How Should Control Theory Be Used By a Time-Consistent Government? **AU** Cohen, Daniel; Michel, Philippe.

Miller, Robert A.

TI An Empirical Analysis of Life Cycle Fertility and Female Labor Supply. **AU** Hotz, V. Joseph; Miller, Robert A.

TI An Empirical Analysis of Life Cycle Fertility and Female Labor Supply. **AU** Hotz, V. Joseph; Miller, Robert A.

Mills, Rodney H.

PD December 1986. **TI** The Cost Competitiveness of the Europaper Market. **AA** International Finance Division, Federal Reserve Board. **SR** Board of Governors of the Federal Reserve System International Finance Discussion Paper: 297; Division of International Finance Board of Governors of the Federal Reserve System, Washington, D.C. 20551. **PG** 17. **PR** No Charge. **JE** 441, 433. **KW** Euromarkets.

Eurocommercial Paper. United States Commercial Paper Market. Borrowing Costs. Interest Rates. Dealer Fees.
AB Very little has been written about the cost competitiveness of the market for Europaper (Euronotes and Eurocommercial paper) despite the extraordinarily rapid growth of this market over the past three years. This paper tries to compare costs to the borrower on 3-month Europaper with similar costs in the United States commercial paper market. On the basis of weekly data in the period June-October, the conclusion is reached that the costs may have been lower in the Europaper market roughly one-third to one-half of the time. Rates paid to investors are, at most times and for most borrowers, lower in the United States market than in the Euromarket, but the higher remuneration to dealers in the United States market frequently means that all-in costs to the borrower are lower in the Euromarket. Because of the nature and limitations of the data, cost comparisons were limited to estimated rates paid in the two markets only by borrowers whose United States commercial paper is rated P-1 or A-1. United States market borrowing costs were estimated from published composite rates for double-A borrowers, with adjustments where the long-term debt rating of the borrower was not double-A, and from market reports about dealer fees. Europaper borrowing costs had to be inferred from secondary market quotations. Fluctuations in the relative rates suggest the frequent appearance and disappearance of "windows of opportunity" for borrowing in the market with the lower cost at the time.

Minford, Patrick

TI Germany and the European Disease. **AU** Davis, John; Minford, Patrick.

Minyi, Yue

TI On a Generalization of the Rado-Hall Theorem to Greedoids. **AU** Lijuan, Ding; Minyi, Yue.

Miron, Jeffrey A.

TI The Adjustment of Expectations to a Change in Regime: A Study of the Founding of the Federal Reserve. **AU** Mankiw, N. Gregory; Miron, Jeffrey A.; Weil, David A.

Mitchell, Olivia S.

TI Married Women's Retirement Behavior. **AU** Pozzebon, Silvana; Mitchell, Olivia S.

Mizon, Grayham E.

PD November 1986. **TI** The Distribution of Consumer Price Changes in the U.K. **AU** Mizon, Grayham E.; Safford, J. Claire; Thomas, Stephen H. **AA** Safford: Anistics Limited. Mizon and Thomas: University of Southampton. **SR** University of Southampton Discussion Paper in Economics and Econometrics: 8626; Department of Economics, University of Southampton, Southampton 509 5NH, ENGLAND. **PG** 13. **PR** No Charge. **JE** 227, 134, 212, 921. **KW** Prices. United Kingdom. Price Misperception. Asymmetric Price Responses. Granger. Causality.
AB The exercise using monthly United Kingdom consumer price data for the period 1962-1983 has cast considerable doubt on the normality of the distribution of commodity price changes as a sensible maintained hypothesis in models derived from that of Lucas (1973) (e.g. Froyen and Waud (1984)). This is consistent with evidence for other countries, and must call into question the applicability of the conventional price misperceptions' models (e.g. Cukierman (1984)) which assume normality. Whereas there has been much attention given to the relationship between inflation and relative price variability in the literature, we chose to focus on a hypothesis that has received relatively little empirical attention, namely that concerning Asymmetric Price Responses and inflation. Of particular interest is the result that, using sample moments of weighted data, there is one way instantaneous Granger Causality from skewness to changes in the mean in the same period: this is consistent with the APR hypothesis though with price adjustments taking place within the observation period of one month. The sample moments for the unweighted data, though, reject the APR hypothesis.

Mizrach, Bruce

PD July 1986. **TI** Aggregate Inventory Movements: A Dynamic Adjustment Model. **AA** Department of Economics, University of Pennsylvania. **SR** University of Pennsylvania Econometrics Discussion Paper: 85-29R; Department of Economics, McNeil Building, 3718 Locust Walk, CR, University of Pennsylvania, Philadelphia, PA 19104. **PG** 32. **PR** $1.00. **JE** 023, 131. **KW** Inventory Partial Adjustment Model. Intertemporal Dynamics. Rational Expectations.
AB The inventory partial adjustment model has been called into question because of its implausible adjustment lags. This paper shows that these objections are due to improper specification of the intertemporal dynamics. A dynamic rational expectations version of the model is estimated using a method proposed by Hayashi and Sims. This model exhibits rapid adjustment to equilibrium, and though parsimonious, dramatically improves the goodness of fit.

Monfort, A.

TI Testing Unknown Linear Restrictions on Parameter Functions. **AU** Gourieroux, C.; Monfort, A.; Renault, E.

TI Testing for Common Roots. **AU** Gourieroux, G.; Monfort, A.; Renault, E.

Morgan, Peter B.

PD March 1986. **TI** The VPRT: A Sequential Testing Procedure Dominating the SPRT. **AU** Morgan, Peter B.; Cressie, Noel. **AA** Morgan: Department of Economics, University of Western Ontario. Cressie: Department of Statistics, Iowa State University. **SR** University of Western Ontario Centre for Decision Sciences and Econometrics Technical Report: 11; The Centre for Decision Sciences and Econometrics, Department of Economics, Social Sciences Center, University of Western Ontario, London, Ontario, CANADA N6A 5C2. **PG** 43. **PR** No Charge. **JE** 211. **KW** Cost Function. Sequential Decision Procedure. Sequential Probability Ratio Test. SPRT. VPRT. Hypothesis Test. Power. Size.
AB Under more realistic assumptions than those usually imposed in the sequential analysis literature, a variable-sample-size sequential probability ratio test (VPRT) of

two simple hypotheses is found which maximizes the expected net gain over all sequential decision procedures. The VPRT also minimizes the expected total sampling cost and, under slightly more general conditions than those imposed by Wald and Wolfowitz (1948), reduces to the one-observation-at-a-time sequential probability ratio test (SPRT). Finally, the ways in which the size and power of the VPRT depend upon the parameters of the decision procedure are examined.

TI Improving Upon the Neyman-Pearson Approach to Testing Hypotheses. **AU** Cressie, Noel; Morgan, Peter B.

Morris, Molly

TI Evolutionarily Stable Mating Behaviour. **AU** Gardner, Roy; Morris, Molly; Nelson, Craig.

Mosser, Patricia C.

PD November 1986. **TI** Trade Inventories and (S,s). **AA** Department of Economics, Columbia University. **SR** Columbia Department of Economics Working Paper: 336; Department of Economics, Columbia University, New York, NY 10027. **PG** 42. **PR** $5.00. **JE** 511, 512, 513. **KW** Inventory Behavior. Stock Adjustment. Target Reorder Point Model.

AB The paper presents empirical tests of the (S,s) or target reorder point model of inventory behavior using aggregate (two-digit SIC code) retail trade data. Estimation and tests are based on the time series properties of deliveries, stocks and demand variables implied by the (S,s) rule, rather than on a structural model such as was done in Blinder (1981). In this, the paper relies on Caplin's 1983 results regarding the probability distributions of both individual firm and industry inventories under an (S,s) rule. In particular, the paper emphasizes the excess volatility of retailers' demands over their consumers' demand, and the "forgetfulness" of inventories when a constant (S,s) rule is used to manage stocks. The tests performed allow for a clear constrast between the results of the (S,s) model and a quadratic cost/delivery smoothing model such as stock adjustment. Test results indicate that for all types of retailers the time series properties of deliveries and sales are consistent with (S,s) and not delivery smoothing. Finally, when autoregressions of stock levels are given an (S,s) rather than a stock-adjustment interpretation, traditional empirical problems, such a low speeds of adjustment, may be explained.

Nalebuff, Barry

PD November 1986. **TI** Credible Pre-Trial Negotiation. **AA** Department of Economics, Princeton University. **SR** Princeton Woodrow Wilson School Discussion Paper in Economics: 118; Woodrow Wilson School, Princeton University, Princeton, NJ 08544. **PG** 18. **PR** No Charge. **JE** 026, 916, 832. **KW** Pre-Trial Negotiation. Bargaining. Threats. Credibility. Labor Negotiations. Litigation. Incomplete Information.

AB Pre-trial negotiation provides a structured environment in which to study bargaining with incomplete information. When a plaintiff believes that a defendant owes him damages, he may first attempt to reach a private settlement before resorting to a costly court imposed judgement. A central issue in their negotiations is whether the plaintiff's threat to litigate is in fact credible. It is possible for the plaintiff to undermine his threat's credibility if his settlement demand is too small. The plaintiff must raise his settlement demand so as to limit the amount of bad news he can learn if his offer is rejected. As a result, even though the plaintiff is suing the defendant, the defendant wants the plaintiff's threat to be credible. Similar issues arise in labor negotiations, where the union's threat to strike replaces the plaintiff's threat to litigate.

TI The Devolution of Declining Industries. **AU** Ghemawat, Pankaj; Nalebuff, Barry.

Navarro, Peter

TI How Markets for Impure Public Goods Organise: The Case of Household Refuse Collection. **AU** Dubin, Jeffrey A.; Navarro, Peter.

Neary, Hugh M.

PD December 1986. **TI** The Comparative Statics of the Ward-Domar LMF: A Profit Function Approach. **AA** Department of Economics, University of British Columbia. **SR** University of British Columbia Department of Economics Discussion Paper: 86-43; Department of Economics, University of British Columbia 997 - 1873 East Mall, Vancouver, B.C. CANADA V6T 1Y2. **PG** 15. **PR** $0.20 per page Canadian to other than educational institutions. **JE** 512, 611, 833, 022. **KW** Labor Managed Firm. Profit Function Approach. Labor Managed Firm.

AB Perhaps the most comprehensive statement on the comparative statics of the multi-output, multi-input labor-managed firm (LMF) is found in the appendix to Domar's celebrated paper on the Soviet collective farm (Domar '1966). Using a production function approach to describe the firm's technological opportunities, this appendix derives comparative static expressions for the LMF that are expressed, via the common production function, in terms of comparative static expressions for the corresponding profit-maximizing (PMF) 'twin'. The author then uses known properties of the PMF's behavior in order to gain some insight into the signs of the LMF's comparative static responses. For the multiple-input, multiple-output case no general results are available, although specific results are obtained for special cases. The purpose of the present paper is to cover the same ground addressed in the Domar appendix, but to do so using a somewhat different approach. The first point I wish to develop is that there exists a 'duality' between the LMF and the PMF that is frequently noted but that is infrequently exploited in analysis. This duality derives from an inverse relation that holds between the two programs: as discussed in Section 2, the LMF seeks to maximize the utility of a representative member subject to a net revenue constraint, while the PMF seeks to maximise net revenue subject to ensuring that its representative worker achieves a market-set reservation level of utility. Further, when the constraint constants in these programs are appropriately chosen the respective solutions coincide. In consequence, the comparative static behavior of the one type of firm can always be expressed in terms of the comparative static behavior of the other. This is a general

result that is evidenced, for example, in the Domar appendix, although this underlying intuition is not developed there. The second point I wish to bring out is that, in the Ward-Domar context of a competitive environment and dividend maximisation, the comparative static behavior of the LMF can be written entirely in terms of the PMF's profit function. Also in these circumstances the profit function serves as a complete description of the firm's technology. These facts together enable us to analyse the relationship between LMF behavior and the underlying technology in terms of the profit function (which is a function of prices) rather than in terms of the production function (which is a function of output and input quantities) as in Domar: this is done in the first part of Section 3. the.

Neelin, Janet

PD January 1987. **TI** An Empirical Study of Dispute Resolution Under an Arbitration System: The Case of British Columbia's Teachers. **AA** Princeton University. **SR** Princeton Industrial Relations Section Working Paper: 217; Industrial Relations Section, Princeton University, Princeton NJ 08544. **PG** 55. **PR** No Charge. **JE** 832, 912. **KW** Teachers. Unions. Canada. Arbitration. Wages. Labor Dispute. Arbitrated Settlements. Arbitrator Behavior.

AB A data set composed of teachers' contracts in the Canadian province of British Columbia is used to examine the effect of arbitration on collective bargaining outcomes. The data set is unique in that it spans 35 years of arbitration experience. I do not find any evidence of an effect of arbitration on wage rates. Strong positive state-dependence exists in the data: Bargaining pairs that used arbitration last period are more likely to do so this period. However, the probability of going to arbitration is only marginally increased by arbitrations that occured more than one year in the past. Fixed effects associated with bargaining pairs were not as important as theories which link dispute rates to characteristics of individual bargainers would suggest. No relationship was found between the percentage of arbitrations and levels of macro-economic variables. Some evidence is presented that the moving average of the percentage of arbitrations is high when there is upward pressure on teacher's wages. The coefficient of variation of the Canadian CPI was positively correlated with the percentage of arbitrations, which suggests that economic uncertainty increases the number of disputes. Finally, a simple model of arbitrator behavior proposed by Ashenfelter et al., is remarkably consistent with these data. In particular, I find that arbitrated settlements can be predicted solely on the basis of the negotiated settlements reached in the nine month period prior to arbitration. I also find that the variance of arbitrated settlements is significantly lower than the variance of the preceding negotiated settlements in 13 of 21 years. On the other hand, the estimated coefficients in the prediction equations for arbitrated and negotiated settlements are significantly different, with the arbitrated settlements giving more weight to lagged wage outcomes.

Nelson, Craig

TI Evolutionarily Stable Mating Behaviour. **AU** Gardner, Roy; Morris, Molly; Nelson, Craig.

Nerlove, Marc L.

TI The Dynamics of Exchange Rate Volatility: A Multivariate Latent Factor ARCH Model. **AU** Diebold, Francis X.; Nerlove, Marc L.

Neumann, Manfred J. M.

PD October 1986. **TI** An Aggregate Supply Function for the Open Economy with Flexible Exchange Rates. **AU** Neumann, Manfred J. M.; von, Hagen Jurgen. **AA** University of Bonn. **SR** Universitat Bonn Sonderforschungsbereich 303 - Discussion Paper: A-81; Sonderforschungsbereich 303 an der Universitat Bonn, Adenauerallee 24-42, D-5300 Bonn 1, DEUTSCHLAND. **PG** 29. **PR** No Charge. **JE** 431, 023, 026. **KW** International Trade. Phillips-Curve. Exchange Rates. Rational Expectations. Open Economy. Information Structure.

AB In this paper we develop an aggregate supply function for an open economy with flexible exchange rates. Such a setting differs from the Lucas-world in two important ways: First, due to its openness the economy is exposed to additional nominal and real aggregate shocks, transmitted from world markets into the economy by international trade. Secondly, the observable, flexible exchange rate can be used by market participants as a common source of additional information. Similar to the interest rate on an economy-wide asset market, Barro (1980) and King (1983), the flexible exchange rate aggregates information and expectations across markets, hence provides a global signal in addition to the local signal which agents can extract from the observed local price. Both aspects of an open economy with flexible exchange rates, the enlarged shock structure and the richer information structure, modify the effects of nominal and real aggregate shocks on output and the price level in important ways. The main results of our analysis are as follows: First, as in the closed economy case aggregate output deviates from its full information value to the extent that agents misperceive global demand shocks. Secondly, the impact coefficients of all nominal and real aggregate shocks - whether of domestic or foreign origin - are decreasing functions of their own variances in the aggregate supply function. This is a generalization of Lucas' result that the output effect of monetary shocks falls with a rising variance of those shocks. Thirdly, output fluctuations due to external nominal and real disturbances are magnified by a rising variance of domestic monetary shocks. Fourthly, the well-known property of the short-run Phillips-curve of exhibiting a variable slope is a special case. It ceases to hold when agents rationally process two signals instead of one, a local signal and a global signal. In this more general case of a rational expectations set-up the slope is a constant while the shifts of the short-run curve are conditioned by the shock variances.

PD February 1987. **TI** Relative Price Risk in an Open Economy with Flexible Exchange Rates. **AU** Neumann, Manfred J. M.; von, Hagen Jurgen. **AA** University of Bonn. **SR** Universitat Bonn Sonderforschungsbereich 303 - Discussion Paper: A-97; Sonderforschungsbereich 303 an der Universitat Bonn, Adenauerallee 24-42, D-5300 Bonn 1, DEUTSCHLAND. **PG** 34. **PR** No Charge. **JE** 431, 311, 026, 134, 227. **KW** Multi-Market

Economy. Exchange Rates. Shocks. Prices. Risk. Exchange Rates. Open Economy. Rational Expectations. Incomplete Information. Germany.
AB This paper analyses the determinants of relative price risk for an open multi-markets economy where agents observe local prices and a global flexible exchange rate. Estimates with German data (1973-1985) confirm (i) that relative price risk is a positive function of domestic monetary disturbances and of nominal and real exchange rate shocks, and (ii) that aggregate output is negatively affected by relative price risk.

Newey, Whitney

TI Efficient Estimation and Identification of Simultaneous Equations Models with Covariance Restrictions. **AU** Hausman, Jerry A.; Newey, Whitney K.; Taylor, William E.

TI The Revenues-Expenditures Nexus: Evidence from Local Government Data. **AU** Holtz, Eakin Douglas; Newey, Whitney; Rosen, Harvey.

PD June 1986. **TI** Asymetric Least Squares Estimation and Testing. **AU** Newey, Whitney K.; Powell, James L. **AA** Newey: Department of Economics, Princeton University. Powell: Social Science Research Institute, University of Wisconsin. **SR** Princeton Econometric Research Program Memorandum: 325; Department of Economics, Princeton University, Princeton, NJ 08544. **PG** 54. **PR** $2.00. **JE** 210, 211, 212. **KW** Asymetric Least Squares. Homoskedasticity. Conditional Symmetry. Location Measures. Regression Quantiles.
AB This paper considers estimation and testing using location measures for regression models that are based on an asymmetric least squares criterion function. These asymmetric least squares estimators have properties that are analogous to regression quantiles, but are much easier to calculate, as are test statistics based on asymmetric least squares estimators. In addition we find that asymmetric least squares tests of homoskedasticity and symmetry compare quite favorably with other tests of these hypotheses, in terms of asymptotic relative efficiency. Consequently, asymmetric least squares estimation provides a convenient and relatively efficient method of summarizing aspects of the conditional distribution of a dependent variable given some regressors, which is often important for the correct interpretation of regression estimators.

TI The Revenues-Expenditures Nexus: Evidence from Local Government Data. **AU** Holtz, Eakin Douglas; Newey, Whitney; Rosen, Harvey.

Nickell, Stephen

PD February 1987. **TI** Myopia, The 'Dividend Puzzle' and Share Prices. **AU** Nickell, Stephen; Wadhwani, Sushil. **AA** Nickell: Institute of Economics and Statistics, Oxford. Wadhwani: Centre for Labour Economics, London School of Economics. **SR** London School of Economics Centre for Labour Economics Discussion Paper: 272; Centre for Labour Economics, London School of Economics, Houghton Street, London WC2A 2AE, ENGLAND. **PG** 40. **PR** No Charge. **JE** 313, 521. **KW** Myopia. Share Prices. Dividends. Stock Market. Efficient Markets Hypothesis.
AB The view that the stock market is myopic is commonly expressed in the financial press. However, the existing econometric evidence does not support this view. In this paper, we report econometric evidence suggesting that the market attaches too high a weight to current dividends relative to future dividends, which is, therefore, consistent with the widely-held belief that the market is myopic. The main reason that we obtain a different result is that we estimate a model that is more general than the standard approach. However, we find no evidence to link this myopic behaviour with increased institutional ownership of equity. Our evidence can also be interpreted as a rejection of the standard efficient markets model, even when we allow for a time-varying discount rate. In addition, our test does not depend on the time-series properties of dividends (e.g., we do not require stationarity).

PD February 1987. **TI** Myopia, the 'Dividend Puzzle', and Share Prices. **AU** Nickell, Stephen; Wadhwani, Sushil. **AA** Nickell: Institute of Economics and Statistics, University of Oxford. Wadhwani: Department of Economics, London School of Economics. **SR** Centre for Economic Policy Research Discussion Paper: 155; Centre for Economic Policy Research, 6 Duke of York Street, London SW1Y 6LA, ENGLAND. **PG** 41. **PR** 1 pound ($2.00) individuals; 1.50 pounds ($3.00) companies, libraries, institutions. **JE** 313, 521. **KW** Myopia. Stock Market. Dividends. Efficient Markets Hypothesis.
AB The view that the stock market is myopic is commonly expressed in the financial press. However, the existing econometric evidence does not support this view. In this paper, we report econometric evidence suggesting that the market attaches too high a weight to current dividends relative to future dividends. This is consistent with the widely-held belief that the market is myopic. The main reason that we obtain a different result is that we estimate a model that is more general than the standard approach. However, we find no evidence to link this myopic behaviour with increased institutional ownership of equity. Our evidence can also be interpreted as a rejection of the standard efficient markets model, even when we allow for a time-varying discount rate. In addition our test does not depend on the time-series properties of dividends (e.g. we do not require stationarity).

Nickerson, David

TI Optimal Buffer Stock and Futures Market Policies for Commodity Price Stabilization. **AU** Courchane, Marsha; Nickerson, David.

TI Rational Expectations and Countercyclical Monetary Policy with Bisymmetric and Common Incomplete Information. **AU** Courchane, M. J.; Nickerson, David.

Oaxaca, Ronald

TI The 'Economics of Discrimination' Thirty Years Later: Economists Enter the Courtroom. **AU** Ashenfelter, Orley; Oaxaca, Ronald.

OBrien, Paul F.

TI Responses to Deregulation: Retail Deposit Pricing

from 1983 through 1985. **AU** Mahoney, Patrick I.; White, Alice P.; OBrien, Paul F.; McLaughlin, Mary M.

OGrada, Cormac

TI On the Road Again With Arthur Young: English, Irish, and French Agriculture During the Industrial Revolution. **AU** Allen, Robert C.; OGrada, Cormac.

Oswald, Andrew J.

TI Shares for Employees: A Test of Their Effects. **AU** Blanchflower, David G.; Oswald, Andrew J.

TI Internal and External Influences Upon Pay Settlements: New Survey Evidence. **AU** Blanchflower, David G.; Oswald, Andrew J.

Pagano, Marco

PD December 1986. **TI** Trading Volume and Asset Liquidity. **AA** Centre for Economic Policy Research. **SR** Centre for Economic Policy Research Discussion Paper: 142; Centre for Economic Policy Research, 6 Duke of York Street, London SW1Y 6LA, ENGLAND. **PG** 30. **PR** 1 pound ($2.00) individuals; 1.50 pounds ($3.00) companies, libraries, institutions. **JE** 313, 311, 026, 022. **KW** Trading Volume. Asset Liquidity. Market Depth. Market Thinness. Rational Expectations.

AB The existence of a centralized market does not in itself guarantee that an asset can be readily liquidated at no loss: if the market is not deep enough, traders will experience adverse changes in the market price in response to their transactions. Market depth, however, is a function of the entry decisions of all potential traders. Each trader will therefore judge the absorptive capacity of the market on the basis of his conjectures about the behaviour of the others. This creates an externality, and as often happens in situations where externalities are at work, multiple (rational expectations) equilibria are possible. The nature of the equilibrium which results depends on the initial conjectures that each trader forms about the choices of the others. If conjectures are "pessimistic", for instance, a market may remain trapped at an inefficient equilibrium, characterized by low trading volume and low liquidity.

PD December 1986. **TI** Endogenous Market Thinness and Stock Price Volatility. **AA** Centre for Economic Policy Research. **SR** Centre for Economic Policy Research Discussion Paper: 146; Centre for Economic Policy Research, 6 Duke of York Street, London SW1Y 6LA, ENGLAND. **PG** 36. **PR** 1 pound ($2.00) individuals; 1.50 pounds ($3.00) companies, libraries, institutions. **JE** 313, 311, 026, 022. **KW** Stock Price. Volatility. Stock Market. Thin Financial Markets. Transaction Costs.

AB Thin equity markets cannot accommodate temporary bulges of buy or sell orders without large price movements: the resulting volatility can induce risk-averse transactors who face transaction costs to desert these markets altogether. Thus thinness and the consequent price volatility may become joint self-perpetuating features of an equity market, whatever the volatility of asset fundamentals. If, however, appropriate incentive schemes are adopted to encourage entry of additional investors, this vicious circle can be broken, eventually shifting the market to a self-sustaining, superior equilibrium, characterized by a higher number of transactors, lower price volatility and larger supply of the asset.

PD December 1986. **TI** Market Size, the Informational Content of Stock Prices and Risk: A Multiasset Model and Some Evidence. **AA** Centre for Economic Policy Research. **SR** Centre for Economic Policy Research Discussion Paper: 144; Centre for Economic Policy Research, 6 Duke of York Street, London SW1Y 6LA, ENGLAND. **PG** 62. **PR** 1 pound ($2.00) individuals; 1.50 pounds ($3.00) companies, libraries, institutions. **JE** 313, 311, 026. **KW** Stock Prices. Stock Market. Risk. Market Thinness. Italy. Information. Financial Market.

AB Market thinness can be an important determinant of the riskiness of stock returns, because it reduces the reliability of stock prices as predictors of future dividends. This paper analyses the relationship between market size and risk as the outcome of rational expectations equilibrium in a multiasset model with transaction costs, and shows that: (i) the conditional and measured variance of stock returns should be higher for thin issues ceteris paribus, and (ii) this thinness-variability relationship should arise only from the unsystematic component of the variance. These predictions are tested on data from the Milan Stock Exchange and appear to be supported by the evidence.

Patel, Jayendu

PD November 1986. **TI** Treasury Bill Futures as Hedges Against Inflation Risk. **AU** Patel, Jayendu; Zeckhauser, Richard. **AA** Harvard University. **SR** Harvard John F. Kennedy School of Government Discussion Paper: 156D; John F. Kennedy School of Government, Harvard University, 79 John F. Kennedy Street, Cambridge, MA 02138. **PR** No Charge. **JE** 313, 026, 134. **KW** Hedging. Inflation Hedge. Inflation Risk. Unbiased Expectation Hypothesis. Fisher Hypothesis. Capital Markets.

AB Financial instruments and forecasting services project future inflation rates. Unexpected inflation, the difference between realized and projected inflation, had a 2.1 percent standard deviation (on an annual basis) over the 1953-84 period. Such unanticipated changes in purchasing power impose an immediate risk on participants in the economy, and a continuing risk as well, since nominal contracts extend beyond a year and the increment to expected inflation next year is 43 percent of this year's unexpected inflation, with further increases affecting future years. Unfortunately, as has been widely documented, conventional financial instruments such as stocks and bonds do not offer hedges against unexpected inflation. Our analysis shows, by contrast, that holding a short position in Treasury bill futures does offer such a hedge, reducing the risks of unexpected inflation by 30 to 40 percent. Our analysis provides indirect support for a weak version of the Fisher Hypothesis; it suggests that the Unbiased Expectations Hypothesis applied to Treasury bills can not be rejected. The theoretical case for Treasury bill futures serving as an inflation risk hedge is based on bringing together the Fisher Hypothesis, the persistent (autoregressive) nature of inflation, and the efficiency of capital markets. The expected cost of using this hedge has been close to zero, which reinforces its attractiveness.

Pauly, Mark

TI Alternative Compensation Arrangements and Productive Efficiency in Partnerships: Evidence From Medical Group Practice. **AU** Gaynor, Martin; Pauly, Mark.

Pauly, Peter

TI Structural Change and the Combination of Forecasts. **AU** Diebold, Francis X.; Pauly, Peter.

Paxson, Christina H.

TI Labor Supply Preferences, Hours Constraints, and Hours-Wage Tradeoffs. **AU** Altonji, Joseph G.; Paxson, Christina H.

TI Labor Supply Preferences, Hours Constraints, and Hours-Wage Tradeoffs. **AU** Altonji, Joseph G.; Paxson, Christina H.

Pearce, David

TI Toward a Theory of Discounted Repeated Games with Imperfect Monitoring. **AU** Abreu, Dilip; Pearce, David; Stacchetti, Ennio.

Persson, Torsten

PD January 1987. **TI** Why a Stubborn Conservative Would Run a Deficit: Policy With Time-Inconsistent Preferences. **AU** Persson, Torsten; Svensson, Lars E. O. **AA** Rochester Center for Economics Research. **SR** University of Rochester Center for Economic Research Working Paper: 71; Department of Economics, University of Rochester, Rochester, NY 14627. **PG** 26. **PR** No Charge. **JE** 321, 322, 323, 023, 131, 133. **KW** Time-Inconsistency. Public Debt. Budget Deficit. Fiscal Policy. Public Consumption. Politics.

AB Consider a conservative government, meaning a government in favor of a low level of public consumption, which knows that it will be replaced in the future by a more expansionary government in favor of a larger level of public consumption. How does this situation affect the equilibrium level of public consumption and the fiscal policy of the conservative government, compared to a situation when the conservative government remains in power in the future? We show that the resulting level of public consumption is in between the levels the two governments would choose if each were in power both in the present and in the future. In particular, we show that if the conservative government is more stubborn (in a particular sense) than the succeeding government, the conservative government may borrow more than it would if it would remain in power in the future.

Pesando, James E.

TI The Response of Interest Rates to the Federal Reserve's Weekly Money Announcements: The "Puzzle" of Anticipated Money. **AU** Deaves, Richard; Melino, Angelo; Pesando, James E.

Peters, Wolfgang

TI Privatisation, Efficiency and Market Structure. **AU** Bos, Dieter; Peters, Wolfgang.

Peterson, Bruce C.

TI Market Structure and Cyclical Fluctuations in U.S. Manufacturing. **AU** Domowitz, Ian; Hubbard, R. Glenn; Peterson, Bruce C.

Picard, Pierre

TI Adverse Selection and Moral Hazard with Risk-Neutral Agent. **AU** Guesnerie, Roger; Picard, Pierre; Rey, Patrick.

TI Adverse Selection and Moral Hazard with Risk Neutral Agent. **AU** Guesnerie, Roger; Picard, Pierre; Rey, Patrick.

Plosser, Charles I.

PD December 1986. **TI** Further Evidence on the Relation Between Fiscal Policy and the Term Structure. **AA** Graduate School of Management, University of Rochester. **SR** University of Rochester Center for Economic Research Working Paper: 66; Department of Economics, University of Rochester, Rochester, NY 14627. **PG** 34. **PR** No Charge. **JE** 321, 322, 323, 311, 313. **KW** Budget Deficits. Interest Rates. Market Efficiency. Rational Expectations. Public Debt.

AB This paper exploits market efficiency and a rational expectations version of the term structure to attempt to isolate the relation between monthly and quarterly innovations in government policy variables and both nominal and real rates of return to government securities of different maturities over a period extending through 1985. Overall, the results do not offer much support for the conventional view regarding public debt and interest rates. Nevertheless, the results appear somewhat sensitive to the time period. This should give some cause for concern when interpreting reduced form empirical results that rely on highly aggregated (such as yearly) data over long periods of time.

Plott, Charles R.

TI Multiple Unit Oral Double Auction. **AU** Gray, Peter; Plott, Charles R.

Polinsky, A. M.

PD December 1986. **TI** A Note on Optimal Public Enforcement with Settlements and Litigation Costs. **AU** Polinsky, A. Michael; Rubinfeld, Daniel L. **AA** Polinsky: Stanford Law School, Stanford University. Rubinfeld: School of Law, University of California, Berkeley. **SR** National Bureau of Economic Research Working Paper: 2114; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PR** $2.00. **JE** 916. **KW** Public Enforcement. Settlements. Litigation. Defendent.

AB This note reexamines the theory of optimal public enforcement when litigation costs are incurred if the defendant is prosecuted at trial, and when an out-of-court settlement is possible. Using a numerical example, it is shown that settlements and litigation costs can substantially alter the optimal system of public enforcement. It is also shown that failing to take these considerations into account can significantly lower the achievable level of social welfare.

PD March 1987. **TI** Optimal Liability When the

Injurer's Information About the Victim's Loss is Imperfect. **AA** Stanford Law School. **SR** National Bureau of Economic Research Working Paper: 2174; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PR** $2.00. **JE** 916. **KW** Liability. Injury Suit.

AB A central result in the economic theory of liability is that, if an injurer's liability equals the victim's loss, then either the rule of strict liability or the rule of negligence can induce the injurer to behave properly. However, for this result to hold, the injurer must know the victim's loss before the injurer decides whether to engage in the harmful activity and, a fortiori, before any harm has occurred. This paper reevaluates the rules of strict liability and negligence when the injurer's information is imperfect. Two questions are addressed: Under each rule, should the level of liability imposed on the injurer still equal the victim's loss? Are the rules of strict liability and negligence still equally desirable? With respect to the first question, it is demonstrated that the optimal level of liability generally is not equal to the victim's loss. With respect to the second question, it is shown that if the injurer's liability equals the victim's loss, then the two rules are equivalent, but if liability is set optimally under each rule, then strict liability generally induces the injurer to behave in a more appropriate way.

Porter, Robert H.

TI Information, Returns, and Bidding Behavior in OCS Auctions: 1954-1969. **AU** Hendricks, Kenneth; Porter, Robert H.; Boudreau, Bryan.

Portes, Richard

TI The Anatomy of Financial Crises. **AU** Eichengreen, Barry; Portes, Richard.

PD February 1987. **TI** Money and the Consumption Goods Market in China. **AU** Portes, Richard; Santorum, Anita. **AA** Department of Economics, Birkbeck College. **SR** National Bureau of Economic Research Working Paper: 2143; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PR** $2.00. **JE** 121, 124, 112, 111, 023, 311. **KW** Disequilibrium Model. China. Causality. Consumption Goods. Money.

AB This paper studies the relations between money and other macroeconomic variables as well as excess demand in the consumption goods market for the case of China, 1954-83. We explicitly recognise the endogeneity of money in the CPE and do not impose (but instead test) some common restrictive assumptions; we assess the extent of aggregate excess demand (supply) in a macroeconomic disequilibrium model; and we allow at the macro level for the possible coexistence of micro markets in different states of excess demand or supply (shortages or slacks). We find bidirectional causality between money and income; that M1 behaves in a manner more suited to building simple, conventional models than does M2; and that there has been a mixed pattern of excess supplies and demands over the three decades.

Poterba, James M.

TI January 1987. Why Have Corporate Tax Revenues Declined? **AU** Auerbach, Alan J.; Poterba, James M.

TI Why Have Corporate Tax Revenues Declined? **AU** Auerbach, Alan J.; Poterba, James M.

PD December 1986. **TI** Finite Lifetimes and the Effects of Budget Deficits on National Savings. **AU** Poterba, James M.; Summers, Lawrence H. **AA** Poterba: Massachusetts Institute of Technology and NBER. Summers: Harvard and NBER. **SR** Massachusetts Institute of Technology Department of Economics Working Paper: 434; Department of Economics, Massachusetts Institute of Technology Cambridge, MA 02139. **PG** 36. **PR** No Charge. **JE** 322, 323, 321, 023. **KW** Budget Deficit. National Saving. Fiscal Policy. National Debt.

AB This paper examines theoretical and empirical issues bearing on the effect of government deficits on private savings. First, using a lifecycle simulation model, we show that even though deficit policies shift sizable tax burdens to future generations, individuals live long enough to make the assumption of an infinite horizon a good approximation for analyzing their short-run savings effects. This conclusion requires that agents are neither liquidity constrained nor myopic. Second, we analyze the recent United States experience with sustained budget deficits and conclude that it casts significant doubt on the proposition that the timing of taxes does not affect national savings. These findings suggest that realistic analysis of fiscal policies must recognize that consumers are liquidity constrained and/or myopic.

TI Household Behavior and the Tax Reform Act of 1986. **AU** Hausman, Jerry A.; Poterba, James M.

PD January 1987. **TI** Tax Evasion and Capital Gains Taxation. **AA** Massachusetts Institute of Technology and NBER. **SR** Massachusetts Institute of Technology Department of Economics Working Paper: 436; Department of Economics, Massachusetts Institute of Technology Cambridge, MA 02139. **PG** 12. **PR** No Charge. **JE** 916, 323. **KW** Tax Evasion. Capital Gains Tax Rate. Taxpayer Compliance.

AB This paper uses time-series data to investigate how changes in capital gains tax rates affect taxpayer compliance. It finds that a one percent increase in the marginal tax rate reduces voluntary compliance by between one half and one percent. These results confirm the findings of previous studies based on individual household data. They also suggest that at least one quarter of the observed capital gain realization response to changes in marginal tax rates is due to changes in reporting behavior, rather than portfolio behavior.

PD January 1987. **TI** Tax Evasion and Capital Gains Taxation. **AA** Department of Economics, Massachusetts Institute of Technology. **SR** National Bureau of Economic Research Working Paper: 2119; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PR** $2.00. **JE** 323, 541. **KW** Tax Evation. Capital Gains Tax. Taxpayer Compliance.

AB This paper uses time-series data to investigate how changes in capital gains tax rates affect taxpayer compliance. It finds that a one percent increase in the marginal tax rate reduces voluntary compliance by between one half and one percent. These results confirm the findings of previous studies based on individual

household data. They also suggest that at least one quarter of the observed capital gain realization response to changes in marginal tax rates is due to changes in reporting behavior, rather than portfolio behavior.

TI Household Behavior and the Tax Reform Act of 1986. **AU** Hausman, Jerry A.; Poterba, James M.

PD February 1987. **TI** Recent U.S. Evidence on Budget Deficits and National Savings. **AU** Poterba, James M.; Summers, Lawrence. **AA** Poterba: Department of Economics, Massachusetts Institute of Technology. Summers: Department of Economics, Harvard University. **SR** National Bureau of Economic Research Working Paper: 2144; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PR** $2.00. **JE** 322, 323, 321. **KW** Budget Deficit. Saving. Tax Policy. Fiscal Policy.
AB This paper examines the recent United States experience with sustained budget deficits and concludes that the events of the last five years cast significant doubt on the proposition that the timing of taxes does not affect national savings. Rather than raising private saving, the recent deficits have if anything coincided with reduced saving and increased consumption. These findings suggest that realistic analysis of fiscal policies must recognize that consumers are liquidity constrained and/or myopic.

Powell, James L.

TI Asymetric Least Squares Estimation and Testing. **AU** Newey, Whitney K.; Powell, James L.

Pozzebon, Silvana

PD December 1986. **TI** Married Women's Retirement Behavior. **AU** Pozzebon, Silvana; Mitchell, Olivia S. **AA** NYSSILR, Cornell University. **SR** National Bureau of Economic Research Working Paper: 2104; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PR** $2.00. **JE** 918, 917, 915, 921. **KW** Women. Retirement. Family. Pensions. Social Security Reform. Marriage.
AB In this paper we examine the economic and family determinants of married women's retirement behavior. A model of wives' retirement decisions is developed and tested empirically using data on working married women. Estimated response parameters are compared to those obtained previously for male workers. Our findings are directly relevant to policy questions regarding pension and Social Security reform.

Pradel, J.

TI Strong Concentration Ordering. **AU** Fourgeaud, C.; Gourieroux, C.; Pradel, J.

Puffert, Douglas

TI Social Security and the American Family. **AU** Boskin, Michael J.; Puffert, Douglas.

Quandt, Richard E.

TI The Econometrics of Rationing Models. **AU** Goldfeld, Stephen M.; Quandt, Richard E.

PD February 1987. **TI** Disequilibrium Econometrics for Centrally Planned Economics. **AA** Princeton University, Economics Department. **SR** Princeton Financial Research Center Memorandum: 74; Financial Research Center, Department of Economics, Princeton University, Princeton, NJ 08544. **PG** 52. **PR** $3.00. **JE** 027, 052, 211, 212. **KW** Disequilibrium. Central Planning. Maximum Likelihood.
AB The paper evaluates the economic and econometric problems of formulating and estimating disequilibrium models for centrally planned economies. Attention is paid to specification problems and, in particular, to specifying the plan adjustment equation. One section deals explicitly with estimation and testing in the chronic excess demand case. A final section discusses specific issues of computing maximum likelihood estimates in disequilibrium models.

Quigley, John M.

PD September 1986. **TI** Interest Rate Variations, Mortgage Payments and the Geographic Mobility of Labor. **AA** University of California at Berkeley. **SR** University of California at Berkeley Department of Economics Working Paper: 8611; Department of Economics, University of California at Berkeley, Berkeley, CA 94720. **PG** 30. **PR** $3.50. **JE** 932, 823, 315. **KW** Residential Mobility. Due-On-Sale. Mortgage pricing. Housing. Homeowners. Migration.
AB The volatility of interest rates and the deregulation of the mortgage lending sector have meant that many homeowners also own mortgages at favorable terms. This paper presents a model of residential mobility decisions and an empirical analysis which evaluates the importance of the ownership of mortgages at favorable terms upon the mobility of homeowners. The results, estimated from cross-sectional and panel data using proportional and non-proportional hazard models, indicate that these effects are quite large. The empirical analysis also distinguishes between different regulatory regimes which govern the assumption of existing mortgages. Finally, the analysis indicates the substantial implications of the findings for the pricing and valuation of mortgage backed securities.

Raff, Daniel M. G.

PD December 1986. **TI** Did Henry Ford Pay Efficiency Wages? **AU** Raff, Daniel M. G.; Summers, Lawrence H. **AA** Raff: Harvard Business School, Harvard University. Summers: Department of Economics, Harvard University. **SR** National Bureau of Economic Research Working Paper: 2101; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PR** $2.00. **JE** 824, 833, 226, 512. **KW** Efficiency Wages. Ford. Productivity. Labor Problems. Employment Determination.
AB This paper examines Henry Ford's introduction of the five-dollar day in 1914 in an effort to evaluate the relevance of efficiency wage theories of wage and employment determination. Our general conclusion is that the Ford experience is strongly supportive of the relevance of these theories. Ford's decision to dramatically increase wages is most plausibly portrayed as the consequence of labor problems of the kind stressed by efficiency wage theorists. The structure of the five dollar day program is consistent with the predictions of efficiency wage theories. There is vivid evidence that the five-dollar day resulted in

substantial queues for Ford jobs. Finally, significant increases in productivity and profits at Ford accompanied the introduction of the five-dollar day.

Ramey, Garey

TI Structural Consistency, Consistency and Sequential Rationality. **AU** Kreps, David M.; Ramey, Garey.

Reishus, David

TI The Effects of Taxation on the Merger Decision. **AU** Auerbach, Alan; Reishus, David.

Renault, E.

TI Testing Unknown Linear Restrictions on Parameter Functions. **AU** Gourieroux, C.; Monfort, A.; Renault, E.

TI Testing for Common Roots. **AU** Gourieroux, G.; Monfort, A.; Renault, E.

Rey, Patrick

TI Adverse Selection and Moral Hazard with Risk-Neutral Agent. **AU** Guesnerie, Roger; Picard, Pierre; Rey, Patrick.

TI Adverse Selection and Moral Hazard with Risk Neutral Agent. **AU** Guesnerie, Roger; Picard, Pierre; Rey, Patrick.

Riker, William H.

PD December 1986. **TI** Constitutional Regulation of Legislative Choice: The Political Consequences of Judicial Deference to Legislatures. **AU** Riker, William H.; Weingast, Barry R. **AA** Riker: University of Rochester. Weingast: Washington University. **SR** Stanford Hoover Institute Working Paper in Economics: E-86-75; Domestic Studies Program Working Paper Series, Hoover Institution, Stanford University, Stanford, CA 94305. **PG** 31. **PR** No Charge. **JE** 025, 916. **KW** Legislature. Constitutional Regulation. Judiciary. Constitutional Law. Supreme Court. Social Choice. Elections. Majority Voting. United States Congress.

AB This paper contributes to the literature on law and economics, though it raises a set of issues in Constitutional Law rather than the common law. We focus on how the Supreme Court controls what policies legislatures are allowed to pursue in the area of economic and social regulation. Since the New Deal, the Court has deferred to legislatures in these areas. The takings, the contracts, and the due process clauses, for example, no longer place significant constraints on legislatures (with notable exceptions). While it recognized in Munn v. Illinois that this power may be abused, the Court advised the people to "resort to the polls, not the courts." Implicit in the Court's view is the idea that majority rule represents a balancing of all relevant interests in society, and that abuses or aberrations are policed through elections. We take sharp exception with this view. Recent results in modern social choice theory show that majority voting has a fundamentally arbitrary component, and importantly, that the actual outcome depends critically on the agenda, or order in which the alternatives arise for a vote. This has two related implications. First, majority rule outcomes can be manipulated by those who control the agenda. Second, and more importantly, the view used by the Court to rationalize deference to legislatures is fundamentally flawed. We illustrate our claims using several examples drawn from the United States Congress.

Riordan, Michael H.

TI On Governing Multilateral Transactions with Bilateral Contracts. **AU** Cremer, Jacques; Riordan, Michael H.

PD February 1987. **TI** Commitment in Procurement Contracting. **AU** Riordan, Michael H.; Sappington, David E. M. **AA** Riordan: Stanford University, National Fellow, Hoover Institution. Sappington: Bell Communications Research. **SR** Stanford Hoover Institute Working Paper in Economics: E-87-7; Domestic Studies Program Working Paper Series, Hoover Institution, Stanford University, Stanford, CA 94305. **PG** 46. **PR** No Charge. **JE** 026, 612, 619. **KW** Procurement Contracting. Commitment. Principal-Agent Models. Private Information. Limited Liability. Bidding.

AB We study a multistage procurement process involving a buyer and two potential suppliers. There are three stages: concept design, development, and production. While competition between potential suppliers exists initially, a sole source must be selected at the development stage. This same sole source also undertakes production. We analyze both bidding for the development contract, and the design of the subsequent production contract. At the concept design stage, bidders are privately informed about their prospective production costs. Actual production costs are learned privately by the successful bidder only after the development contract is completed. Thus, the procurement process features both private information and uncertainty. We focus on the consequences of two types of limited commitment. First, the buyer may be unable to commit at the development stage to sustain losses above some (bankruptcy) level during the production state. Second, the buyer may be unable to commit himself to the terms of a production contract until after development is completed. We analyze the difficulties that arise from each type of limited commitment.

Rizzo, John A.

TI The Other Side of the Trade Imbalance: What Will Japan Do? **AU** Sato, Ryuzo; Rizzo, John A.

Robinson, Chris

PD May 1986. **TI** The Joint Determination of Union Status and Union Wage Effects: Some Tests of Alternative Models. **AA** University of Western Ontario and Economics Research Center/NORC. **SR** Economics Research Center/NORC Discussion Paper: ' 86-14; Economics Research Center/NORC, 6030 S. Ellis, Chicago, IL 60637. **PG** 52. **PR** $2.00 send requests to Librarian, NORC. **JE** 831, 212, 824. **KW** Unions. Wages. Workers. Union Differentials. Union Membership.

AB In recent discussions of the estimation of "union differentials" there appears to be a quite general agreement that union status is not exogenous. Given that some endogenous process determines union status, a list of further questions have naturally arisen, along with discussions about what union differentials measure in the

endogenous union status context, and how they should be interpreted. The pessimistic conclusion that has usually been drawn is that there is no discernible pattern to the estimates and that therefore no improvement in our understanding of the union differential problem has been made. In this paper, existing evidence is reviewed and new evidence provided that supports a much more positive view of what can be learned from the attempts to deal with union endogeneity. Section II specifies a two period model of unionization as a framework within which both cross-section and longitudinal estimators may be compared. Two basic sources of endogeneity are identified and alternative approaches to solving these problems are considered. Section III presents both "corrected" and "uncorrected" estimates of the union differential from both cross section and longitudinal data sets. These estimates are contrasted with the general picture from the literature on differentials. In section IV the different estimators used to produce the differentials for section III are used as the basis for tests of the process governing union status. Extensive exogeneity tests were conducted which provided considerable evidence of an endogenous process. Some conclusions are presented in Section V.

Robinson, Marc

TI New Estimates of State and Local Government Tangible Capital and Net Investment. **AU** Boskin, Michael J.; Robinson, Marc; Huber, Alan M.

Roderick, Dani

PD March 1987. **TI** Imperfect Competition, Scale Economies, and Trade Policy in Developing Countries. **AA** John F. Kennedy School of Government, Harvard University. **SR** Harvard John F. Kennedy School of Government Discussion Paper: 158D; John F. Kennedy School of Government, Harvard University, 79 John F. Kennedy Street, Cambridge, MA 02138. **PG** 50. **PR** No Charge. **JE** 411, 421, 422, 611, 022, 121. **KW** Trade Policy. Imperfect Competition. Economies of Scale. LDCs. Turkey. Trade Liberalization.

AB The "new" trade theory, with its emphasis on imperfect competition and scale economies, has developed against the background of trade conflicts among developed countries. This paper argues that market imperfections of the sort analyzed in this context are, if anything, more serious in the developing countries. The paper starts with an overview of the salient aspects of market structure and conduct in the LDCs and then addresses the following question: to what extent does the presence of increasing returns and imperfect competition at home alter the received wisdom on the benefits of trade liberalization? The analysis is carried out in two steps. First, a general-equilibrium framework is developed in which the sources of potential gains/losses from partial trade liberalization can be assessed in the presence of imperfect competition. It is concluded that while oligopolistic profits per se do not alter much our notions about the desirable direction of resource pulls, the presence of significant scale economies may clash seriously with the objective of contracting protected sectors. In the second stage of the analysis, partial-equilibrium numerical simulations are carried out using data for some Turkish industries. Partial trade liberalization turns out to be welfare-increasing in all but the least protected industries.

Rodrik, Dani

PD November 1986. **TI** Macroeconomic Policy and Debt in Turkey During the 1970's: A Tale of Two Policy Phases. **AA** Harvard University. **SR** Harvard John F. Kennedy School of Government Discussion Paper: 157D; John F. Kennedy School of Government, Harvard University, 79 John F. Kennedy Street, Cambridge, MA 02138. **PR** No Charge. **JE** 023, 121, 431, 443, 134. **KW** External Debt. Turkey. Macroeconomic Policy. Oil Shock. Inflation. Income Distribution.

AB Contrary to the common pattern, Turkey experienced her debt crisis following the first oil shock rather than the second one. To shed light on the causes and consequences of Turkey's debt crisis of 1977, this paper analyzes two phases of policy during the 1970s. The first of these covers the 1973-77 period of expansion followed by eventual crash. The second phase -- chronologically shorter, but with equally serious consequences -- covers the 1978-79 period of forced adjustment until the fall of the Shah in neighboring Iran triggered an avalanche of aid flows from OECD governments. It is argued that the key characteristic of the first phase was a form of external borrowing with intrinsically de-stabilizing features. The second phase was marked by ad hoc policies which let inflation carry the burden of adjustment, with disastrous effects on income distribution.

Roemer, John E.

PD November 1986. **TI** Pitfalls of Nash Bargaining Theory in Economic Contexts. **AA** University of California at Davis. **SR** University of California at Davis Economics Department Working Paper: 284; Department of Economics, University of California at Davis, Davis, CA 95616. **PG** 15. **PR** No Charge. **JE** 026, 022. **KW** Nash Solution. Bargaining Theory. Economic Games.

AB In bargaining theory, axioms which characterize solutions are defined directly in utility space. But if the axioms are defined on economic environments instead, the same theorems are not true. It is shown that the natural versions of the axioms for the Nash solution, defined on economic games, do not characterize the Nash bargaining solution. In fact, they hardly constrain the behavior of the solution at all. It is therefore claimed that the axiomatic justification of the Nash solution as applicable in economic contexts is unwarranted.

Rogoff, Kenneth

TI A Constant Recontracting Model of Sovereign Debt. **AU** Bulow, Jeremy I.; Rogoff, Kenneth.

Romer, Christina D.

PD March 1987. **TI** Gross National Product, 1909-1928: Existing Estimates, New Estimates, and New Interpretations of World War I and Its Aftermath. **AA** Woodrow Wilson School, Princeton University. **SR** National Bureau of Economic Research Working Paper: 2187; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PR** $2.00. **JE** 221, 042, 023, 131. **KW** Gross

National Product. World War I. Depression. Gross National Product Revisions. United States. Recession. GNP.
AB The paper examines the official Commerce Department estimates of gross national product for 1909-1928 and finds that they are far inferior to the less commonly used Kendrick GNP estimates. The paper then derives a revised version of the Kendrick series that alters significantly the representation of annual movements in the Kendrick series before 1919. This endorsement of a revised Kendrick GNP series in place of the official Commerce Department estimates before 1929 suggests new interpretations of the effect of World War I on the American economy and the nature and cause of the depression of 1921.

Romer, David

TI Are Prices Too Sticky? **AU** Ball, Laurence; Romer, David.

Rosen, Harvey

TI The Revenues-Expenditures Nexus: Evidence from Local Government Data. **AU** Holtz, Eakin Douglas; Newey, Whitney; Rosen, Harvey.

TI The Revenues-Expenditures Nexus: Evidence from Local Government Data. **AU** Holtz, Eakin Douglas; Newey, Whitney; Rosen, Harvey.

Ross, Hermann

TI Economic Structural Change and Long-Term-Fluctuations in Economic Growth. **AU** Krelle, W.; Dobrinsky, R.; Gajda, J.; Ross, H.; Szekely, I.; Welsch, H.

PD August 1986. **TI** Zur Wegunabhangigkeit von Divisia - Indizes. **AA** University of Bonn. **SR** Universitat Bonn Sonderforschungsbereich 303 - Discussion Paper: B-62; Sonderforschungsbereich 303 an der Universitat Bonn, Adenauerallee 24-42, D-5300 Bonn 1, DEUTSCHLAND. **PG** 15. **PR** No Charge. **JE** 211. **KW** Path Independence of Divisia Indices. Quantity Aggregation. Price Aggregation. Divisia Index Numbers.
AB (In German).

PD November 1986. **TI** Economic Growth and Structural Change of OECD Countries. **AA** University of Bonn. **SR** Universitat Bonn Sonderforschungsbereich 303 - Discussion Paper: B-63; Sonderforschungsbereich 303 an der Universitat Bonn, Adenauerallee 24-42, D-5300 Bonn 1, DEUTSCHLAND. **PG** 30. **PR** No Charge. **JE** 122, 111, 131, 132. **KW** Economic Growth. Structural Change. World Model. OECD.
AB One part of the IIASA Research Program on Economic Growth and Structural Change is the construction of a model for medium term simulations of future economic growth. We included 20 countries in the analysis for the submodel of industrialized market economies. With the exception of South Africa all of them are members of the OECD. A list of the countries is given in table 1 of appendix A. The countries were selected as the most important economies with respect to world trade in the end of the seventies. The 20 countries covered 60.6 per cent of world exports and 72.3 per cent of world imports (not including intra CMEA trade) reported for 1980 in the Direction of Trade Statistics (DOTS) of the International Monetary Fund. Nine countries which covered 56.5 per cent of all exports and 59.8 per cent of all imports in 1980 are treated separately in the analysis and the model. The other eleven countries are gathered in one group and treated as one economic unit. The aggregation over countries in building up this (artificial) economic unit has been done in the following way: time series at constant prices in national currency are summed up after conversion to series at constant prices in United States dollars at constant exchange rate. The base year for price indices is always 1975 and as conversion factor the exchange rate of 1975 is taken. Time series at current prices in national currency are summed up after conversion to series at current prices in United States dollars at current exchange rate. We calculated an index of the exchange rate of the eleven national currencies to the United States dollar as a weighted average using as weights the shares of nominal gross domestic product in current prices and current United States dollars. This index was applied to the nominal series to correct them and their price indices from exchange rate fluctuations. The data bank used is described in detail in H. Ross (1985). National Accounts data have been taken from OECD publications, employment figures from ILO and OECD publications and monetary items from the International Financial Statistics (IFS) of the International Monetary Fund.

Rozwadowski, Franek J.

PD July 1986. **TI** Political Economy at Columbia in the Nineteenth Century. **AA** Department of Economics, Columbia University and Wesleyan University. **SR** Columbia Department of Economics Working Paper: 330; Department of Economics, Columbia University, New York, NY 10027. **PG** 42. **PR** $5.00. **JE** 031. **KW** Columbia University. History of Political Economy. American History.
AB As late as 1870 Columbia was a small clerical college with a tendency to stagnation. Attempts, in 1830 and especially in 1858, to introduce new subjects and advanced courses, had failed, allowing the Trustees and Faculty, who disapproved of change, to slump back into a self satisfied apathy. Even the tradition of superior instruction in Political Economy, established by McVickar and Lieber, had proven fragile: Lieber's successor was painfully inadequate. Then, in 1880, the School of Political Science was founded and in the next twenty years the University took off dramatically. The School was the thin edge of the wedge in the development of graduate studies: its resounding success was the best answer (though also a threat) to the opponents of university education and it became the model for Columbia's other graduate schools. Finally, the School brought together the ingredients -- graduate students, seminars, library -- that made it possible to create a modern economics department where research and advanced teaching could nourish each other. The history that follows falls into two parts, reflecting the two phases in Columbia's history. In the first, collegiate phase, the "department" of political economy is one of the several departments (others were Moral Philosophy, History, Belles Lettres) carried a single member of the faculty. In the second, university phase, the department takes on an institutional and administrative structure and

grows in size so that there are several men in the department rather than several departments to a man.

PD July 1986. **TI** The Dynamics of Monetary Control Procedures. **AA** Department of Economics, Columbia University and Wesleyan University. **SR** Columbia Department of Economics Working Paper: 331; Department of Economics, Columbia University, New York, NY 10027. **PG** 27. **PR** $5.00. **JE** 311, 312, 314, 023. **KW** Monetary Policy. Central Bank. Monetary Aggregates. Monetary Target. Money Supply. Interest Rate.

AB The paper uses dynamic criteria to evaluate central bank operating procedures. Questions considered include: should the policy instrument be (nonborrowed or total) reserves or the central bank's security portfolio; should the intermediate target be the base, M1, M2 or bank loans; how should the discount rate be set? The approach is analytical: a model is specified in which alternative operating procedures can be implemented; then procedures prone to dynamic instability or nonuniqueness are ruled out. The paper cautions against using reserves as the instrument or M2 as the intermediate target if variable interest rate deposits dominate the banking sector.

Rubinfeld, Daniel L.

TI A Note on Optimal Public Enforcement with Settlements and Litigation Costs. **AU** Polinsky, A. Michael; Rubinfeld, Daniel L.

Rudebusch, Glenn D.

TI Scoring the Leading Indicators. **AU** Diebold, Francis X.; Rudebusch, Glenn D.

Ruttan, Vernon W.

PD December 1986. **TI** Cultural Endowments and Economic Development: What Can We Learn From Anthropology? **AA** Department of Agricultural Economics, University of Minnesota. **SR** University of Minnesota Economic Development Center Bulletin: 86-7; Department of Economics, 1035 Management and Economics, University of Minnesota Minneapolis, MN 55455. **PG** 45p. **PR** Free. **JE** 110, 621, 811, 820. **KW** Economic Growth. Development. Planning Theory. Planning Policy. Culture. Anthropology. Cultural Endowments. Institutional Change. Technical Change.

AB A pattern model is used to map the general equilibrium relationships between resource endowments, cultural endowments, technical change and institutional change. Attempts by economists to examine the role of cultural endowments in constraining or facilitating economic growth is reviewed. These efforts have not given rise to either new theory or new empirical research. Potential contributions from the field of anthropology are also reviewed. In spite of the attraction to economists of the work of the materialist schools in anthropology the work of the interpretive school is likely to be of greater value in understanding the role of cultural endowments in the process of economic development.

Ruud, Paul A.

TI Specifying and Testing Econometric Models for Rank-Ordered Data with an Application to the Demand for Mobile and Portable Telephones. **AU** Hausman, Jerry A.; Ruud, Paul A.

Safford, J. Claire

TI The Distribution of Consumer Price Changes in the U.K. **AU** Mizon, Grayham E.; Safford, J. Claire; Thomas, Stephen H.

Sahi, S.

TI A Strategic Market Game With Complete Markets. **AU** Amir, R.; Sahi, S.; Shubik, M.

Salinger, Michael A.

PD August 3, 1986. **TI** Vertical Mergers and Market Foreclosure with Differentiated Products. **AA** Columbia Business School. **SR** Columbia First Boston Series in Money, Economics and Finance Working Paper: FB-86-29; First Boston Series, Graduate School of Business, Columbia University, New York, NY 10027. **PG** 20. **PR** $5.00 academics and non-profit institutions; $6.00 corporations (add $1.00 outside United States, Canada and Puerto Rico). **JE** 611, 612, 022. **KW** Vertical Mergers. Vertical Integration. Market Foreclosure. Differentiated Products.

AB This paper analyzes a merger between a downstream monopolist and one of the two upstream brands that it purchases. The merger eliminates the successive mark-up for the merging brand, but has a foreclosure effect on the unintegrated brand. These "initial" effects induce further price changes. The end result can be a decrease in both prices, an increase in both prices, or a decrease in the merging brand price and an increase in the unintegrated brand price.

Saloner, Garth

PD December 1986. **TI** Predation, Mergers and Incomplete Information. **AA** Massachusetts Institute of Technology and National Fellow Hoover Institution, and Stanford University. **SR** Stanford Hoover Institute Working Paper in Economics: E-86-70; Domestic Studies Program Working Paper Series, Hoover Institution, Stanford University, Stanford, CA 94305. **PG** 58. **PR** No Charge. **JE** 611, 612, 026. **KW** Predation. Mergers. Entry Deterrence. Incomplete Information. Duopolist. Takeover. Signalling. Strategic Pricing.

AB This paper examines the strategic pricing of duopolists in anticipation of a takeover of one of them by the other. In equilibrium the acquiring firm may expand its output in order to signal that it is a low cost rival and thereby improve the takeover terms. If the merged firm will face potential entry, a pre-merger expansion of output may be necessary to deter entry and make the merger profitable. In that case the acquiring firm's output expansion increases industry concentration by facilitating the takeover and by deterring entry. This establishes the rationality of predatory output expansions - even when a merger or takeover is possible and, indeed, anticipated.

TI Competition, Compatibility and Standards: The Economics of Horses, Penguins and Lemmings. **AU** Farrell, Joseph; Saloner, Garth.

Samuelson, William

TI Can People Compute? An Experimental Test of the Life Cycle Consumption Model. **AU** Johnson, Stephen; Kotlikoff, Laurence; Samuelson, William.

Sandmo, Agnar

PD July 1986. **TI** Tax Distortions and Household Production. **AA** University of Bonn. **SR** Universitat Bonn Sonderforschungsbereich 303 - Discussion Paper: A-69; Sonderforschungsbereich 303 an der Universitat Bonn, Adenauerallee 24-42, D-5300 Bonn 1, DEUTSCHLAND. **PG** 20. **PR** No Charge. **JE** 321, 323, 324, 921. **KW** Household Production. Taxability. Optimal Tax Policy. Tax Distortions.

AB Most of economic theory, including the theory of public finance, has been constructed on the assumption of a sharp dichotomy between producers and consumers; firms produce while individuals consume. The theoretical and empirical fruitfulness of this dichotomy is beyond dispute. Still, the existence of household production is also indisputable, and the "new" theory of consumption has argued that explicit analysis of the production activities of consumers can provide us with important new economic insights. The present paper provides an application of the household production viewpoint to issues in tax policy arising from the fact that the value of household production as such is untaxable in the sense in which this concept is used by Lerner (1970); an assessment of the value of this output would only be possible at prohibitive administrative costs. This raises issues both of positive theory, relating to the likely effects on households and on the economy of changes in tax policy, and of normative theory, where the concern is with optimal tax design, given the untaxability of household production. Although a substantial amount of work has been done on the subject of household production, broadly defined, it has not yet had much impact on the theory of taxation. An important exception is the work of Boskin (1975), who applies the Harberger two-sector model to a study of the efficiency loss from differential tax treatment of market and household activity in the United States economy; he also studies some aspects of the problem of second-best optimum taxation. Apps (1981) explores the analogy between models of household taxation and the theory of international trade with tariffs, emphasizing issues relating to inequality between the sexes. There are at least two reasons why one should be interested in reconsidering the theory of optimum tax policy in the context of the household production approach. One is the empirical importance of household production, which is well documented in a number of studies; see e.g. Boskin (1975) and Gronau (1977, 1980). This leads one to believe that tax effects could be of considerable quantitative importance and that this dimension of consumer choice deserves more attention than it has so far received. The other reason is theoretical. The theory of optimum taxation in its most general form provides little economic intuition for the likely structure of optimal taxes. In providing such intuition an important role is played by the study of simplified special cases which typically give rise to various elasticity formulae that can be given appealing economic interpretations. The household production framework can be seen as an attempt to impose restrictions on household demand and supply functions which come in addition to those following from the general version of the utility maximization hypothesis. It is therefore of interest to see whether this approach can yield characterizations of optimum tax structures that can help to establish a better economic intuition for optimal tax policy under second best conditions.

Santorum, Anita

TI Money and the Consumption Goods Market in China. **AU** Portes, Richard; Santorum, Anita.

Sappington, David E. M.

TI Commitment in Procurement Contracting. **AU** Riordan, Michael H.; Sappington, David E. M.

TI Regulating a Monopolist with Unknown Demand. **AU** Lewis, Tracy R.; Sappington, David E. M.

PD March 1987. **TI** Privatization, Information and Incentives. **AU** Sappington, David E. M.; Stiglitz, Joseph E. **AA** Sappington: Bell Communications Research. Stiglitz: Princeton University. **SR** National Bureau of Economic Research Working Paper: 2196; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PR** $2.00. **JE** 614, 613, 022, 611, 511, 514. **KW** Public Provision of Goods. Private Provision of Goods. Delegation of Authority. Public Ownership.

AB In this paper, the choice between public and private provision of goods and services is considered. In practice, both modes of operation involve significant delegation of authority, and thus appear quite similar in some respects. The argument here is that the main difference between the two modes concerns the transactions costs faced by the government when attempting to intervene in the delegated production activities. Such intervention is generally less costly under public ownership than under private ownership. The greater ease of intervention under public ownership can have its advantages; but the fact that a promise not to intervene is more credible under private production can also have beneficial incentive effects. The Fundamental Privatization Theorem (analogous to The Fundamental Theorem of Welfare Economics) is presented, providing conditions under which government production cannot improve upon private production. The restrictiveness of these conditions is evaluated.

Sargent, Thomas J.

TI Interpreting New Evidence About China and U.S. Silver Purchases. **AU** Brandt, Loren; Sargent, Thomas J.

Sato, Ryuzo

PD December 1986. **TI** The Other Side of the Trade Imbalance: What Will Japan Do? **AU** Sato, Ryuzo; Rizzo, John A. **AA** The Center for United States-Japan Business and Economic Studies, New York University. **SR** National Bureau of Economic Research Working Paper: 2111; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PR** $2.00. **JE** 421, 422, 121, 431, 616. **KW** Trade Imbalance. Japan. Trade Deficit. Industrial Policy.

AB With the mounting United States trade deficit, much attention has centered on the role of United States macroeconomic policy and economic structure as

contributing factors. This paper contends that the economic structure and policies of Japan have also done much to contribute to the trade imbalance. Institutional features of Japan's macroeconomy and industrial structure which have promoted her large trade surplus are discussed and industrial policies evaluated. Given the nature and magnitude of the role played by Japan in causing the bilateral trade imbalance, the next question the paper addresses is how Japan might best act to alleviate this imbalance. This section of the paper examines fiscal, monetary and other policy initiatives Japan might take to reduce the trade imbalance. The evidence stresses the desirability of expanding Japan's services industries, particularly leisure-related services.

Scheinkman, Jose

TI The Importance of Bundling in a Gorman-Lancaster Model of Earnings. **AU** Heckman, James J.; Scheinkman, Jose.

Schinasi, Garry J.

PD January 1987. **TI** The Out-of-Sample Forecasting Performance of Exchange Rate Models When Coefficients are Allowed to Change. **AU** Schinasi, Garry J.; Swamy, P. A. V. D. **AA** Board of Governors of the Federal Reserve System. **SR** Board of Governors of the Federal Reserve System International Finance Discussion Paper: 301; International Finance Division, Board of Governors of the Federal Reserve System, 20th C Street Washington, D.C. 20551. **PG** 29. **PR** No Charge. **JE** 431, 212. **KW** Exchange Rate. Forecasting. Random Walk. Current Account.

AB This study examines the out-of-sample forecasting performance of models of exchange rate determination without imposing the restriction that coefficients are fixed over time. Both fixed and variable coefficient versions of conventional structural models are considered, with and without a lagged dependent variable. While our results on fixed coefficient models support most of the Meese and Rogoff conclusions, we find that when coefficients are allowed to change, an important subset of conventional models of the dollar-pound, the dollar-deutsche mark, and the dollar-yen exchange rates can outperform forecasts of a random walk model. The structural models considered are the flexible-price (Frenkel-Bilson) and sticky-price (Dornbusch-Frankel) monetary models, and a sticky-price model which includes the current account (Hooper-Morton). We also find that the variable coefficient version of the Dornbusch-Frankel model with a lagged dependent variable generally predicts better than the other models considered including the random walk model.

PD March 1987. **TI** The Out-of-Sample Forecasting Performance of Exchange Rate Models When Coefficients are Allowed to Change. **AU** Schinasi, Garry J.; Swamy, P. A. V. B. **AA** Board of Governors of the Federal Reserve System. **SR** Board of Governors of the Federal Reserve System Special Studies Section Discussion Paper: 215; C/O Francis X. Diebold, Mail Stop 180, Federal Reserve Board, Washington, DC 20551. **PG** 31. **PR** No Charge. **JE** 211, 212, 132, 431. **KW** Exchange Rate. Fixed Coefficients. Stochastic Coefficients. Prediction. Random Walk. Time Varying Parameters.

AB This study examines the out-of-sample forecasting performance of models of exchange rate determination without imposing the restriction that coefficients are fixed over time. Both fixed and variable coefficient versions of conventional structural models are considered, with and without a lagged dependent variable. While our results on fixed coefficient models support most of the Meese and Rogoff conclusions, we find that when coefficients are allowed to change, an important subset of conventional models of the dollar-pound, the dollar-deutsche mark, and the dollar-yen exchange rates can outperform forecasts of a random walk model. The structural models considered are the flexible-price (Frenkel-Bilson) and sticky-price (Dornbusch-Frankel) monetary models, and a sticky-price model which includes the current account (Hooper-Morton). We also find that the variable coefficient version of the Dornbusch-Frankel model with a lagged dependent variable generally predicts better than the other models considered including the random walk model.

TI Prediction, Should Fixed Coefficients Be Reestimated Every Period for Extrapolation? **AU** Swamy, P. A. V. B.; Schinasi, Garry J.

Schroder, Jurgen

PD March 1987. **TI** International Risk and Exchange Rate Overshooting. **AA** University of Mannheim and Hoover Institution, Stanford University. **SR** Stanford Hoover Institute Working Paper in Economics: E-87-10; Domestic Studies Program Working Paper Series, Hoover Institution, Stanford University, Stanford, CA 94305. **PR** No Charge. **JE** 431, 441, 311, 131, 023. **KW** International Risk. Exchange Rate. Overshooting. Interest Rates. Prices. Risky Assets. Monetary Policy. Risk Premium.

AB This paper deals with the short and long run effects of a change in the international risk premium on the exchange rate, the domestic interest rate, and the domestic price level. It is shown that how these macroeconomic variables are affected depends crucially on the assumption about which assets become riskier to which group of asset holders. Three cases are discussed and compared. In case one the holding of domestic interest bearing assets becomes riskier only to international investors. In case two the holding of these assets becomes riskier to both groups, international investors and national transactors. In case three it is assumed that the holding of all domestic assets becomes riskier to both groups of wealth holders. Under the plausible assumption that asset markets clear faster than commodity markets it is shown that in cases one and three an offsetting monetary policy is necessary in order to avoid real exchange rate fluctuations caused by changes in the international risk premium. The necessary monetary policy is accomplished automatically if the monetary authority stabilizes the exchange rate without neutralising the monetary effects of its foreign exchange market interventions. However, in case two, no offsetting monetary policy is necessary. In this case the domestic interest rate adjusts instantaneously to the change in the international risk premium and both the exchange rate, and the domestic price level, stay constant.

Schurger, Klaus

PD December 1986. **TI** On Derriennic's Almost

Subadditive Ergodic Theorem. **AA** University of Bonn. **SR** Universitat Bonn Sonderforschungsbereich 303 - Discussion Paper: B-51; Sonderforschungsbereich 303 an der Universitat Bonn, Adenauerallee 24-42, D-5300 Bonn 1, DEUTSCHLAND. **PG** 15. **PR** No Charge. **JE** 211, 213, 026. **KW** Information Theory. Ergodic Theorem. Subadditivity.

AB Recently, Moulin-Ollagnier derived a new mean ergodic theorem which might be called an almost subadditive ergodic theorem. This allows a fairly simple proof of the L1-part of the Shannon-McMillan-Breiman theorem of information theory. Shortly after, Derriennic showed that Moulin-Ollagnier's mean ergodic theorem holds under weaker moment conditions and that it can be extended to yield an individual ergodic theorem. This, in turn, allows a simple (martingale-free) proof of the almost sure part of the Shannon-McMillan-Breiman result. Derriennic's almost subadditive ergodic theorem is an interesting generalization of Kingman's ergodic theorem, and might be considered a stochastic analogue of the following simple result on real sequences which are "almost subadditive".

Schweizer, Urs

PD February 1987. **TI** Externalitaten und das Coase Theorem: Hypothese oder Resultat? **AA** University of Bonn. **SR** Universitat Bonn Sonderforschungsbereich 303 - Discussion Paper: A-99; Sonderforschungsbereich 303 an der Universitat Bonn, Adenauerallee 24-42, D-5300 Bonn 1, DEUTSCHLAND. **PG** 34. **PR** No Charge. **JE** 021, 024, 026, 022. **KW** Efficient Allocation. Non-Cooperative Game. Nash Equilibrium. Coase Theorem.

AB Externe Effekte verursachen Marktversagen, behaupten die einen; Verhandlungen fuhren bei verschwindenden Transaktionskosten zu einer effizienten Allokation, besagt das Coase Theorem. Der vorliegende Aufsatz behandelt diese Kontroverse im einheitlichen Rahmen der Theorie nichtkooperativer Spiele. Insbesondere wird gezeigt, dabeta die Effizienz bzw. Ineffizienz eines Nash-Gleichgewichts im wesentlichen von der Modellierung der Verhandlungsstufe abhangt. Selbst bei unvollstandiger Information kann das Effizienzziel unter Umstanden erreicht werden.

Sedlacek, Guilherme

TI Intertemporal Preferences and Labor Supply. **AU** Hotz, V. Joseph; Kydland, Finn E.; Sedlacek, Guilherme.

Selten, Reinhard

PD April 1985. **TI** Equity and Coalition Bargaining in Experimental 3-Person Games. **AA** University of Bonn. **SR** Universitat Bonn Sonderforschungsbereich 303 - Discussion Paper: A-154; Sonderforschungsbereich 303 an der Universitat Bonn, Adenauerallee 24-42, D-5300 Bonn 1, DEUTSCHLAND. **PG** 78. **PR** No Charge. **JE** 026. **KW** Coalition Experiments. 3-Person Games. Equity. Coalition Bargaining.

AB Laboratory experiments on games in characteristic function form have led to descriptive theories of coalition bargaining. No theory proposed up to now is completely satisfactory in the light of the data. However, it seems to be fair to say that the evidence clearly suggests a strong influence of equity considerations on observed payoff divisions. It is the purpose of this paper to throw light on this phenomenon.

PD May 1986. **TI** Evolutionary Stability in Extensive Two-Person Games-Correction and Further Development. **AA** University of Bonn. **SR** Universitat Bonn Sonderforschungsbereich 303 - Discussion Paper: A-70; Sonderforschungsbereich 303 an der Universitat Bonn, Adenauerallee 24-42, D-5300 Bonn 1, DEUTSCHLAND. **PG** 87. **PR** No Charge. **JE** 026. **KW** Two-Person Games. Evolutionary Stability. Game Theory. Extensive Form Game.

AB This paper makes a correction to a previous paper and presents new results and further developments in the evolutionary stability in extensive two-person games.

Shapiro, Carl

TI Dynamic Competition with Lock-In. **AU** Farrell, Joseph; Shapiro, Carl.

Shapiro, Matthew

TI Forecasting the Depression; Harvard Versus Yale. **AU** Fair, Ray C.; Shapiro, Matthew D.; Dominquez, Kathryn D.

PD February 1987. **TI** Are Cyclical Fluctuations in Productivity Due More to Supply Shocks or Demand Shocks? **AA** National Bureau of Economic Research, Cambridge. **SR** National Bureau of Economic Research Working Paper: 2147; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PR** $2.00. **JE** 131, 023, 134, 226. **KW** Productivity. Business Cycle. Demand Shock. Supply Shock. Factor Prices.

AB Measured productivity is strongly procyclical. Real business cycle theories suggest that actual fluctuations in productivity are the source of fluctuations in aggregate output. Keynesian theories maintain that fluctuations in aggregate output come from shocks to aggregate demand. Keynesian theories appeal to labor hoarding or off the production function behavior to explain the procyclicality of productivity. If observed productivity shocks are true productivity shocks, a function of factor prices should covary exactly with productivity. In annual data for United States industries, that function of factor prices and conventionally-measured productivity move together very closely. Moreover, their difference is uncorrelated with aggregate output.

PD February 1987. **TI** Are Cyclical Fluctuations in Productivity Due More to Supply Shocks or Demand Shocks? **AA** Cowles Foundation for Research in Economics, Yale University. **SR** Yale Cowles Foundation Discussion Paper: 822; Cowles Foundation for Research in Economics, Yale University, Box 2125 Yale Station, New Haven, CT 06520. **PG** 19. **PR** No Charge. **JE** 131, 023, 825. **KW** Business Cycles. Macroeconomic Fluctuations. Productivity. Aggregate Demand. Factor Prices.

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Keynesian theories appeal to labor hoarding or off the production function behavior to explain the procyclicality of productivity. If observed productivity shocks are true productivity shocks, a function of factor prices should covary exactly with productivity. In annual data for United States industries, that function of factor prices and conventionally-measured productivity move together very closely. Moreover, their difference is uncorrelated with aggregate output.

PD February 1987. **TI** Supply Shocks in Macroeconomics. **AA** Cowles Foundation for Research in Economics, Yale University. **SR** Yale Cowles Foundation Discussion Paper: 821; Cowles Foundation for Research in Economics, Yale University, Box 2125 Yale Station, New Haven, CT 06520. **PG** 16. **PR** No Charge. **JE** 023, 131. **KW** Supply Shocks. Macroeconomic Fluctuations. Business Cycles.
AB Supply shocks played an important role in macroeconomic fluctuations during the 1970's. Supply shocks are also increasingly important in Keynesian and neo-classical models of the business cycle. This paper is a short survey of these theoretical models. It also discusses the history of supply shocks in recent business cycles.

Shapley, Lloyd S.

TI Individual and Collective Wage Bargaining. **AU** Levy, Anat; Shapley, Lloyd S.

Sharpe, Steven A.

PD January 1987. **TI** Price Rigidity In Imperfectly Competitive Markets: A Survey of Theoretical Approaches. **AA** Board of Governors of the Federal Reserve System. **SR** Board of Governors of the Federal Reserve System Special Studies Section Discussion Paper: 203; C/O Francis X. Diebold, Mail Stop 180, Federal Reserve Board, Washington, DC 20551. **PG** 22. **PR** No Charge. **JE** 131, 134, 023, 227. **KW** Price Adjustment. Sticky prices. Price Rigidity.
AB The role of wage and price adjustment continues to be a central focus in macroeconomic research, teaching, and policy debates. Macroeconomic theories of sluggish price adjustment often appeal to the microeconomic structure of markets and information as a theoretical justification for such price behavior. In this paper, we discuss, compare, and criticize various recent microeconomic models of price adjustment in imperfectly competitive product markets.

PD February 3, 1987. **TI** Experience Goods, Customer Loyalty, and Sticky Prices in a Dynamic Market. **AA** Board of Governors of the Federal Reserve System. **SR** Board of Governors of the Federal Reserve System Special Studies Section Discussion Paper: 202; C/O Francis X. Diebold, Mail Stop 180, Federal Reserve Board, Washington, DC 20551. **PG** 49. **PR** No Charge. **JE** 022, 611, 131. **KW** Sticky Prices. Experiences Goods. Rigidity. Customer markets. Monopolistic Competition. Asymmetric Information. Quality of Goods.
AB This paper develops a dynamic theory of monopolistic competition in which each firm's price strategy is a function of previous quantities sold and the number of consumers expected to visit. The model demonstrates one reason why prices may be sticky in response to unfavorable demand shocks. It departs from previous literature by showing that sluggish prices may be an explicit equilibrium outcome of rational behavior on the part of both consumers and non-colluding firms. Temporary market power is generated by asymmetric information; specifically, product quality is an "experience" attribute, only observable upon consumption. Due to a continual flow of new consumers into the market, high quality firms are visited by both informed and uninformed customers. This creates a tension, between the choice of charging a low price and building market share, or charging a high price and capturing the surplus of "loyal" consumers. In some cases, prices are sluggish because firms choose to exploit temporary market power in periods of unanticipated low demand.

Shay, Robert P.

TI Scale Economies in Commercial Banks Revisited: Do the Findings Make Sense? **AU** Lawrence, Colin; Shay, Robert P.

Shen, T. Y.

PD January 15, 1987. **TI** New Institutionalism and the Erosion of Capitalism. **AA** University of California at Davis. **SR** University of California at Davis Economics Department Working Paper: 285; Department of Economics, University of California at Davis, Davis, CA 95616. **PG** 24. **PR** No Charge. **JE** 611, 051. **KW** New Institutionalism. Capitalism. Transactor Behavior.
AB New Institutionalism literature takes the behavior of transactors and the menu of transactions as given, and demonstrates the efficacy of institutions such as contracts and firms. I argue that there is a feedback from the institutions to the behavior of transactors and the menu of transactions. In the absence of exogeneous interference, the repetition of the circular loop would lead to a reversal of the efficacy conclusions and a continuous erosion of capitalism.

Shetty, Sudhir

PD September 1986. **TI** Limited Liability, Wealth Differences and the Tenancy Ladder in Agrarian Economies. **AA** Department of Economics, Duke University. **SR** Duke Working Paper in Economics: 86-19; Working Papers Series, Department of Economics, Duke University, Durham, NC 27706. **PG** 32. **PR** No Charge. **JE** 121, 112, 718, 717, 716. **KW** Wealth Distribution. Tenancy Ladder. Agrarian Economy. Less Developed Country. Sharecroppers. LDC.
AB Much of the recent literature on the agrarian sector of less developed countries (LDCs) has sought to explain empirical regularities concerning tenancy choice. Until recently, two observations had received little attention in the theoretical literature. One is the coexistence (temporal and spatial) of sharecropping and fixed rent contracts. The second is the "tenancy ladder" phenomenon whereby laborers climb the ladder becoming sharecroppers and then fixed renters before owning their own land. Moreover, the welfare levels of fixed renters tends to be higher than those of sharecroppers. This paper provides an explanation for aspects of each of these relationships. It differs from those in the literature in that it relies on the prohibitive costs to

landlords of monitoring their tenants' labor inputs and on variations in tenants' wealth.

Shiller, Robert J.

TI Cointegration and Tests of Present Value Models. **AU** Campbell, John Y.; Shiller, Robert J.

TI The Dividend-Price Ratio and Expectations of Future Dividends and Discount Factors. **AU** Campbell, John Y.; Shiller, Robert J.

PD January 1987. **TI** Ultimate Sources of Aggregate Variability. **AA** Cowles Foundation, Yale University. **SR** Yale Cowles Foundation Discussion Paper: 816; Cowles Foundation for Research in Economics, 30 Hilhouse Avenue, Box 2125 Yale Station, New Haven, CT 06520. **PG** 22. **PR** No Charge. **JE** 023, 131. **KW** Macroeconomic Aggregate. Variance. Economic Fluctuation.
AB What, ultimately, is different from quarter to quarter or year to year that accounts for the fact that macroeconomic variables change over these intervals? That is, which are the biggest ultimate sources, in terms we may say of tastes, technology, endowments, government policy, industrial organization, labor-management relations, speculative behavior, or the like, that change to cause this variability? There are a bewildering variety of claims in the literature for such ultimate sources. Far fewer efforts have been made to give a breakdown of the variance of macroeconomic aggregates by source. The two notable such breakdowns to date are by Pigou (1929) and Fair (1987). The nature of the evidence for such breakdowns is discussed here, and the possibility that a partial breakdown may be well-determined is put forward. An unsuccessful attempt is made to detect a component of macroeconomic fluctuations that is due to the weather.

PD January 1987. **TI** Ultimate Sources of Aggregate Variability. **AA** Cowles Foundation, Yale University. **SR** Yale Cowles Foundation Discussion Paper: 816; Cowles Foundation for Research in Economics, 30 Hilhouse Avenue, Box 2125 Yale Station, New Haven, CT 06520. **PG** 22. **PR** No Charge. **JE** 023, 131. **KW** Macroeconomic Fluctuations. Aggregates. Weather.
AB What, ultimately, is different from quarter to quarter or year to year that accounts for the fact that macroeconomic variables change over these intervals? That is, which are the biggest ultimate sources, in terms we may say of tastes, technology, endowments, government policy, industrial organization, labor-management relations, speculative behavior, or the like, that change to cause this variability? There are a bewildering variety of claims in the literature for such ultimate sources. Far fewer efforts have been made to give a breakdown of the variance of macroeconomic aggregates by source. The two notable such breakdowns to date are by Pigou (1929) and Fair (1987). The nature of the evidence for such breakdowns is discussed here, and the possibility that a partial breakdown may be well-determined is put forward. An unsuccessful attempt is made to detect a component of macroeconomic fluctuations that is due to the weather.

PD January 1987. **TI** Ultimate Sources of Aggregate Variability. **AA** Cowles Foundation, Yale University. **SR** National Bureau of Economic Research Working Paper: 2129; National Bureau of Economic Research, 1050 massachusetts Avenue, Cambridge, MA 02138. **PR** $2.00. **JE** 023, 212. **KW** Aggregate Variability. Macroeconomic Variables. Government Policy.
AB What, ultimately, is different from quarter to quarter or year to year that accounts for the fact that macroeconomic variables change over these intervals? That is, which are the biggest ultimate sources, in terms we may say of tastes, technology, endowments, government policy, industrial organization, labor-management relations, speculative behavior, or the like, that change to cause this variability? There are a bewildering variety of claims in the literature for such ultimate sources. Far fewer efforts have been made to give a breakdown of the variance of macroeconomic aggregates by source. The two notable such breakdowns to date are by Pigou (1929) and Fair (1987). The nature of the evidence for such breakdowns is discussed here, and the possibility that a partial breakdown may be well-determined is put forward. An unsuccessful attempt is made to detect a component of macroeconomic fluctuations that is due to the weather.

Shubik, M.

TI A Strategic Market Game With Complete Markets. **AU** Amir, R.; Sahi, S.; Shubik, M.

Simon, Carol J.

PD October 1986. **TI** Parameter Stability in Event Studies. **AA** University of California at Los Angeles, Department of Economics. **SR** University of California at Los Angeles Department of Economics Working Paper: 423; Department of Economics - University of California at Los Angeles Los Angeles, CA 90024. **PR** $2.50. **JE** 522, 212. **KW** Event Studies. Capital Asset Pricing Model. Market Portfolio. Firm Leverage. Capital Asset Pricing Model.
AB This paper examines economic conditions which contribute to instability in the time-series estimates of the Capital Asset Pricing Model (CAPM). Recursive estimation is used to diagnose parameter changes in regression estimates of the CAPM. The methodology is applied to a study of the performance of new stock issues. Parameter stability is rejected in over 45 per cent of the estimated CAPM equations. Shifts in beta and the CAPM intercept are linked to omitted economic variables. Estimation is improved when the CAPM is augmented to account for (1) industry-specific returns, (2) unanticipated changes in the variance of the return on the market portfolio, and (3) cyclical variation in beta induced by changes in firm leverage.

Simon, Leo K.

PD July 1986. **TI** Extensive Form Games in Continuous Time Part I: Pure Strategies. **AU** Simon, Leo K.; Stinchcome, Maxwell. **AA** Department of Economics, University of California at Berkeley. **SR** University of California at Berkeley Department of Economics Working Paper: 8607; Department of Economics, University of California at Berkeley, Berkeley, CA 94720. **PG** 57. **PR** $3.50. **JE** 026. **KW** Game

Theory. Continuous Time. Subgame Perfection. Discrete Time.

AB This paper develops a new framework for modelling games in continuous time. We view continuous time as "discrete time, but with a grid that is arbitrarily fine." We define a class of continuous-time strategies and restrict them to an arbitrary, increasingly fine sequence of discrete-time grids. Our assumptions guarantee that this process generates a convergent sequence of outcomes, whose limit is independent of the sequence of grids. Our outcome function maps each strategy profile to its associated limit outcome. We compare the perfect equilibria of our model to the approximate equilibria of "nearby" discrete-time games. If the restrictions to discrete-time grids of our continuous-time strategies are approximate equilibria, then the strategies themselves are exact equilibria. Moreover, under weak conditions, any perfect equilibrium of our model is close to an approximate perfect equilibrium for any "nearby" discrete-time model.

Simonsen, Mario Henrique

TI Inflation Stabilization with Incomes Policy Support: A Review of the Experience in Argentina, Brazil and Israel. **AU** Dornbusch, Rudiger; Simonsen, Mario Henrique.

Sims, Christopher A.

PD February 1987. **TI** Inference in Linear Time Series Models with Some Unit Roots. **AU** Sims, Christopher A.; Stock, James H.; Watson, Mark W. **AA** Sims: University of Minnesota. Stock: Harvard University, Hoover Institution. Watson: Northwestern University. **SR** Stanford Hoover Institute Working Paper in Economics: E-87-1; Domestic Studies Program Working Paper Series, Hoover Institution, Stanford University, Stanford, CA 94305. **PG** 83. **PR** No Charge. **JE** 210. **KW** Cointegration. Stochastic Trends. Wiener Processes. Unit Roots. Vector Autoregression. Granger Causality.

AB This paper examines estimation and testing in linear time series models when some or all of the variables have unit roots. Our motivating example is a vector autoregression with some unit roots in the companion matrix, which might include polynomials of time as regressors. In the general formulation, the variables might be integrated or cointegrated of arbitrary orders, and might have drifts as well. We show that parameters that can be rewritten as coefficients on mean zero, non-integrated regressors will have asymptotically normal joint distributions, converging at the rate T1/2. In general, the other coefficients (including the coefficients on polynomials in time) will have non-normal asymptotic distributions. This provides a formal characterization of which t- or F-tests -- such as Granger causality tests -- will be asymptotically valid, and which will have nonstandard distributions. These results are also used to describe the asymptotic properties of least squares estimators of cointegrating vectors when the variates have nonzero drifts, when they are cointegrated of arbitrary integer order (d,b), and when polynomials of time are (or are not) included in the regressions.

Singh, Radhey S.

TI Nonparametric Recursive Estimation of a Multivariate, Marginal and Conditional DGP with an Application to Specification of Econometric Models. **AU** Ullah, Aman; Singh, Radhey S.

Siow, Aloysius

TI Dynamic Factor Models of Consumption, Hours and Income. **AU** Altonji, Joseph G.; Martins, Ana Paula; Siow, Aloysius.

Slifman, Lawrence

PD December 1986. **TI** The Size of the Public Sector, Saving, and Long-run Output. **AA** Board of Governors of the Federal Reserve System. **SR** Board of Governors of the Federal Reserve System, Economic Activity Section Working Paper: 68; Economic Activity Section Board of Governors of the Federal Reserve System, Washington, D.C. 20551. **PG** 22. **PR** No Charge. **JE** 322, 323, 324, 921, 221, 023. **KW** Public Sector. National Saving. Public Consumption. Federal Budget. Government Expenditure.

AB During the past quarter century there has been a pronounced increase in government expenditures relative to GNP. Using data from the national income accounts and federal budget documents, we develop estimates of public sector outlays based on a classification scheme that provide goods and services -- either through direct purchases or through payments that, in effect, are transfers in kind. As shown in the paper, differential movements in the components of public sector outlays have altered the behavior of aggregate private saving. Moreover, drawing on previously published research on the substitution between public and private consumption, we conclude that the postwar trends in public sector outlays have had, on balance, a damping effect on national saving, and hence, long-run capital intensity, the steady state level of output, and the sustainable level of per capita consumption.

Snyder, Ralph D.

PD March 1987. **TI** Computational Aspects of Kalman Filtering with a Diffuse Prior Distribution. **AA** Monash University. **SR** Monash Department of Econometrics and Operations Research Working Paper: 2/87; Department of Econometrics and Operations Research, Monash University, Clayton, Victoria 3168, AUSTRALIA. **PG** 15. **PR** No Charge. **JE** 211, 213. **KW** Time Series Analysis. Kalman Filter. Estimation. Statistical Algorithm. State Space Model.

AB The problem of seeding a Kalman filter with a diffuse prior distribution is considered for the case where the measurement and system disturbances in the associated state space statistical model are dependent. An adaptation of the conventional filter is defined together with its square root counterpart.

Solaner, Garth

TI Competition, Compatibility and Standards: The Economics of Horses, Penguins and Lemmings. **AU** Farrell, Joseph; Solaner, Garth.

Spady, Richard

TI Factors Affecting the Output and Quit Propensities

of Production Workers. **AU** Klein, Roger; Spady, Richard; Weiss, Andrew.

Spindt, Paul A.

PD March 1987. **TI** The Micromechanics of the Federal Funds Market: Implications for Day of the Week Effects. **AU** Spindt, Paul A.; Hoffmeister, J. Ronald. **AA** Board of Governors of the Federal Reserve System. **SR** Board of Governors of the Federal Reserve System Special Studies Section Discussion Paper: 213; C/O Francis X. Diebold, Mail Stop 180, Federal Reserve Board, Washington, DC 20551. **PG** 20. **PR** No Charge. **JE** 310, 023. **KW** Microstructure. Federal Funds. Interest Rate Variability. Continuous Auction Model. Monetary Policy. Term Structure. Expectations.

AB The Federal funds market is a principal platform for the conduct of monetary policy. Also, the funds rate is pivotal in the term structure if expectations matter. In this paper, we examine the micro mechanics of the funds market. We show that in a continuous market with asynchronous trading, regulatory constraints and accounting conventions that focus agents' behavior around discrete instants of time have important implications for the dynamics of trading activity and the realized market price process. We also exhibit a model of the market that is capable of explaining some of the observed regularities in the intertemporal behavior of the funds rate.

PD March 1987. **TI** On the Supply of the Demand for Money. **AA** Board of Governors of the Federal Reserve System. **SR** Board of Governors of the Federal Reserve System Special Studies Section Discussion Paper: 212; C/O Francis X. Diebold, Mail Stop 180, Federal Reserve Board, Washington, DC 20551. **PG** 11. **PR** No Charge. **JE** 311, 023. **KW** Demand for Money. Velocity. Money Supply. Trading Models. Cash-in-Advance Models.

AB The generic money demand paper is designed to address some recent puzzle in the behavior of monetary aggregates. Its methodology is to search over selected permutations of monetary measures, scale variables, opportunity costs and funtional forms in an effort to find the combination that most reduces the out-of-sample simulation errors of the model. Typically, it concludes that there is no real puzzle after all or that there is and it cannot be explained with the conventional toolkit. This paper suggests that there are possibly more productive paradigms for money demand analysis that have not yet been fully explored. These include trading models in which money plays a distinctive role as medium of exchange, cash-in-advance models, investigation of the demand for money to use, and alternative empirical strategies.

Srivastava, M. S.

TI Unbiased Estimation of the MSE Matrix of Stein-Rule Estimators, Confidence Ellipsoid and Hypothesis Testing. **AU** Ullah, Aman; Srivastava, V. K.; Carter, R. A. L.; Srivastava, M. S.

Srivastava, V. K.

TI Unbiased Estimation of the MSE Matrix of Stein-Rule Estimators, Confidence Ellipsoid and Hypothesis Testing. **AU** Ullah, Aman; Srivastava, V. K.; Carter, R. A. L.; Srivastava, M. S.

Stacchetti, Ennio

TI Toward a Theory of Discounted Repeated Games with Imperfect Monitoring. **AU** Abreu, Dilip; Pearce, David; Stacchetti, Ennio.

Sterdyniak, H.

PD March 1986. **TI** Du Bon Choix de l'Agregat Monetaire (Intermediate Targeting: The Right Choice). **AU** Sterdyniak, H.; Villa, Pierre. **AA** Sterdyniak: O.F.C.E. Paris. Villa: CEPREMAP. **SR** CEPREMAP Discussion Paper: 8607; CEPREMAP, 142 rue du Chevaleret, 75013 Paris, FRANCE. **PG** 34. **PR** 20FF. **JE** 311, 131, 023, 133. **KW** Intermediate Targeting. Financial Aggregates. Monetary Stocks. Money Stock. Monetary Policy. Interest Rates.

AB The paper gives some highlights on the danger of targeting. The government can choose several intermediate targets, whether small or large (small or large definitions of the money stock, domestic financial assets). It can control the private counterpart of the aggregates only, excluding the financing of the government debt. In an open economy, it can decide to control only the domestic counterpart of the aggregates. The evolutions of these aggregates differ with the nature of the shocks so that their control leads to specific interest rate responses that have specific consequences on the final targets: output and foreign reserves. The paper shows that the control of each aggregate may be stabilizing, destabilizing (transmits pure financial shocks to the real sector) or perverse (increases shocks) according to the nature of the shocks. The paper shows that better aggregates than the money stock can be found, such like the small aggregates (Refinancing, Domestic Credit, Domestic Private Borrowing), especially when public expenditures and their financing are not too unstable. (Paper in French).

Stevens, Guy V. G.

PD April 1986. **TI** Internal Funds and the Investment Function: Exploring the Theoretical Justification of Some Empirical Results. **AA** Board of Governors of the Federal Reserve System. **SR** Board of Governors of the Federal Reserve System Special Studies Section Discussion Paper: 199; Mail Stop 24, Federal Reserve Board, 20th and Constitution Avenue, Northwest 20551. **PG** 60. **PR** No Charge. **JE** 520, 022. **KW** Fixed Investment. Internal Funds. Speed of Adjustment. Cost of Adjustment. Capital Stock Adjustment. Intertemporal Profit Maximization.

AB An extensive and increasingly persuasive body of empirical evidence has linked a firm's fixed investment expenditure to its supply of internally generated funds. The central concern of this paper is the theoretical justifiability of such empirically-based investment functions. A class of models is explored featuring intertemporal profit maximization under conditions of increasing costs of external finance (attributable to the risk of bankruptcy) and varying assumptions concerning the cost of adjusting the capital stock. The paper shows that where dynamic costs of adjustment are not present, the investment function implied by the theory is remarkably close to the most promising variant found empirically, where the supply of internal funds affects the speed of adjusting the actual to the optimal capital stock, but not

the level of the latter. Further investigation shows, however, that this result breaks down for models where the cost of adjusting the capital stock is an increasing function of the rate of investment.

Stiglitz, Joseph E.

TI Intergenerational Mobility and Dynastic Inequality. **AU** Kanbur, S. M. Ravi; Stiglitz, Joseph E.

TI Imperfect Information, Credit Markets and Unemployment. **AU** Greenwald, Bruce C.; Stiglitz, Joseph E.

TI Keynesian, New Keynesian and New Classical Economics. **AU** Greenwald, Bruce; Stiglitz, Joseph E.

PD February 1987. **TI** Macro-Economic Equilibrium and Credit Rationing. **AU** Stiglitz, Joseph E.; Weiss, Andrew. **AA** Stiglitz: Department of Economics, Princeton University. Weiss: Bell Communications Research. **SR** National Bureau of Economic Research Working Paper: 2164; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PR** $2.00. **JE** 023, 521, 321, 315, 312, 314. **KW** Credit Rationing. Macroeconomic Equilibrium. Monetary Policy. Credit Contracts.

AB In this paper we investigate the macro-economic equilibria of an economy in which credit contracts have both adverse selection and incentive effects. The terms of credit contracts include both an interest rate and a collateral requirement. We show that in this richer model all types of borrowers may be rationed. Interest rates charged borrowers may move either pro or counter-cyclically. If pro-cyclical shocks have a greater effect on the success probabilities of risky techniques than on safe ones, then the interest rate offered depositors may also move counter-cyclically. Finally, we show that the impact of monetary policy on the macro-economic equilibrium is affected by whether or not the economy is in a regime in which credit is rationed.

TI Project Appraisal and Foreign Exchange Constraints: A Simple Exposition. **AU** Blitzer, Charles R.; Dasgupta, Partha; Stiglitz, Joseph E.

TI Privatization, Information and Incentives. **AU** Sappington, David E. M.; Stiglitz, Joseph E.

PD March 1987. **TI** Pareto Efficient and Optimal Taxation and the New New Welfare Economics. **AA** Princeton University. **SR** National Bureau of Economic Research Working Paper: 2189; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PR** $2.00. **JE** 323, 324, 323, 024. **KW** Pareto Efficient Taxation. Commodity Taxes. Progressive Tax Structure. Tax Policy. Social Welfare Function.

AB This paper surveys recent developments in the theory of Pareto efficient taxation. This literature attempts to characterize those tax structures which, given the limitations on the government's information and other limitations on the government's ability to impose taxes, maximize the welfare of one individual (group of individuals) subject to the government obtaining a given revenue and subject to other (groups of) individuals attaining certain specified levels of utility. Utilitarian (or other) social welfare functions can then be used to select among these Pareto efficient tax structures. While the original goal of this line of research, which was to provide a "scientific" basis for arguing for a progressive tax structure, has not been achieved -- and does not seem achievable -- important insights have been gleaned, which should enable governments to make better choices of tax policies in the future. On the other hand, this research has cast serious doubt on the relevance of many long standing results, including those of Ramsey concerning the structure of commodity taxes.

TI Money, Imperfect Information and Economic Fluctuations. **AU** Greenwald, Bruce; Stiglitz, Joseph E.

Stinchcome, Maxwell

TI Extensive Form Games in Continuous Time Part I: Pure Strategies. **AU** Simon, Leo K.; Stinchcome, Maxwell.

Stock, James H.

TI Inference in Linear Time Series Models with Some Unit Roots. **AU** Sims, Christopher A.; Stock, James H.; Watson, Mark W.

PD February 1987. **TI** Testing for Common Trends. **AU** Stock, James H.; Watson, Mark A. **AA** Stock: Harvard University, Hoover Institution. Watson: Northwestern University. **SR** Stanford Hoover Institute Working Paper in Economics: E-87-2; Domestic Studies Program Working Paper Series, Hoover Institution, Stanford University, Stanford, CA 94305. **PG** 54. **PR** No Charge. **JE** 211. **KW** Cointegration. Factor Models. Integrated Processes. Multiple Time Series. Unit Roots. Yield Curve. Common Trends.

AB Cointegrated multiple time series share one or more common trends. We develop two tests for the number of common stochastic trends (i.e. the order of cointegration) for multiple time series with and without drift. Both tests involve the roots of the OLS coefficient matrix obtained by regressing the series onto its first lag. Critical values for the tests are tabulated, and their power is examined in a Monte Carlo study. When applied to interest rates on four assets of different maturities, the tests point to the existence of a single common trend.

Stockton, David J.

PD March 1987. **TI** Tests of the Specification and Predictive Accuracy of Nonnested Models of Inflation. **AU** Stockton, David J.; Struckmeyer, Charles S. **AA** Board of Governors of the Federal Reserve System. **SR** Board of Governors of the Federal Reserve System Economic Activity Section Working Paper: 71; Economic Activity Section, Board of Governors of the Federal Reserve System, Washington, D.C. 20551. **PG** 31. **PR** No Charge. **JE** 134, 132, 211, 212, 311, 023. **KW** Inflation. Hypothesis Tests. Fair Predictive Accuracy Tests. Volatility. Phillips Curve. Rational Expectations. Misspecification. Forecast Accuracy.

AB The recent volatility of inflation has provided considerable data to distinguish among competing theories of inflation. The key competing models are the expectations-agumented Phillips curve, a monetarist equation, and the rational expectations model. This paper

replicates the results of earlier studies and tests their relative performance using nonnested hypothesis tests. In addition, the forecast accuracy of each of the alternative specifications is evaluated using the methodology developed by Fair (1984). This method seeks to identify forecast uncertainty arising from the model's error term, coefficient estimates, exogenous variable forecasts, and possible misspecification.

Struckmeyer, Charles S.

TI Tests of the Specification and Predictive Accuracy of Nonnested Models of Inflation. **AU** Stockton, David J.; Struckmeyer, Charles S.

Sullivan, Daniel

TI Measuring the Effect of Subsidized Training Programs on Movements In and Out of Employment. **AU** Card, David; Sullivan, Daniel.

Summers, Lawrence H.

TI Finite Lifetimes and the Effects of Budget Deficits on National Savings. **AU** Poterba, James M.; Summers, Lawrence H.

TI Assessing Dynamic Efficiency: Theory and Evidence. **AU** Abel, Andrew B.; Mankiw, N. Gregory; Summers, Lawrence H.; Zeckhauser, Richard J.

TI Assessing Dynamic Efficiency: Theory and Evidence. **AU** Abel, Andrew B.; Mankiw, N. Gregory; Summers, Lawrence H.; Zeckhauser, Richard J.

TI Did Henry Ford Pay Efficiency Wages? **AU** Raff, Daniel M. G.; Summers, Lawrence H.

PD January 1987. **TI** Should Tax Reform Level the Playing Field? **AA** Department of Economics, Harvard University. **SR** National Bureau of Economic Research Working Paper: 2132; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PR** $2.00. **JE** 323. **KW** Tax Reform. Horizontal Equity.
AB While frequently invoked, the level playing field ideal and its practical embodiment in tax legislation has received relatively little analysis. This paper examines the economic arguments surrounding the level playing field doctrine. I conclude that levelling the playing field is an issue of little economic importance and that efforts to level the playing field like those recently enacted are likely to create more important nonneutralities than those they eliminate. They may however contribute to the perceived fairness of the tax system.

TI Tax Policy, Asset Prices and Growth: A General Equilibrium Analysis. **AU** Goulder, Lawrence H.; Summers, Lawrence H.

TI Recent U.S. Evidence on Budget Deficits and National Savings. **AU** Poterba, James M.; Summers, Lawrence.

Sung, Bom Yong

TI Recursive Utility and Optimal Capital Accumulation, I: Existence. **AU** Becker, Robert A.; Boyd, John H.; Sung, Bom Yong.

Svensson, Lars E. O.

TI Why a Stubborn Conservative Would Run a Deficit: Policy With Time-Inconsistent Preferences. **AU** Persson, Torsten; Svensson, Lars E. O.

Swamy, P. A. V. B.

TI The Out-of-Sample Forecasting Performance of Exchange Rate Models When Coefficients are Allowed to Change. **AU** Schinasi, Garry J.; Swamy, P. A. V. D.

TI The Out-of-Sample Forecasting Performance of Exchange Rate Models When Coefficients are Allowed to Change. **AU** Schinasi, Garry J.; Swamy, P. A. V. B.

PD March 1987. **TI** Prediction, Should Fixed Coefficients Be Reestimated Every Period for Extrapolation? **AU** Swamy, P. A. V. B.; Schinasi, Garry J. **AA** Board of Governors of the Federal Reserve System. **SR** Board of Governors of the Federal Reserve System Special Studies Section Discussion Paper: 214; C/O Francis X. Diebold, Mail Stop 180, Federal Reserve Board, Washington, DC 20551. **PG** 28. **PR** No Charge. **JE** 211, 212, 132. **KW** Sequential Estimation. Fixed Coefficients. Stochastic Coefficients. Conditional Expectation. Prediction. Forecasting.
AB This paper demonstrates that forecast accuracy is not necessarily improved when fixed coefficient models are sequentially reestimated, and used for prediction, after updating the database with the latest observation(s). It is argued that although sequential estimation may minimize the variance of predictors based on some classes of estimators, sequential estimation does not necessarily yield accurate predictions (i.e., predictions that are close to actual realizations). Minimizing the mean squared prediction errors about the actual realizations is a necessary condition for maximizing the probability that a given predictor is more accurate than other predictors. This minimization need not require, and may even exclude, the most recent data. It has been shown by an example that a prediction based on a nonsequential estimate of a stochastically varying coefficient model is superior to predictions based on several sequential estimates of the fixed coefficient models including a random walk model.

Szafarz, A.

TI Identification and Consistent Estimation of Multivariate Linear Models with Rational Expectations of Current Variables. **AU** Broze, L.; Gourieroux; Szafarz, A.

Szekely, I.

TI Economic Structural Change and Long-Term-Fluctuations in Economic Growth. **AU** Krelle, W.; Dobrinsky, R.; Gajda, J.; Ross, H.; Szekely, I.; Welsch, H.

Tabellini, Guido

PD December 1986. **TI** Secrecy of Monetary Policy and the Variability of Interest Rates. **AA** Department of Economics, University of California, Los Angeles. **SR** University of California at Los Angeles Department of Economics Working Paper: 426; Department of Economics, University of California at Los Angeles, 405 Hilgard Avenue, Los Angeles, CA 90024. **PG** 20. **PR** $2.50; checks payable to University of California

Regents. **JE** 311, 023, 313. **KW** Learning. Monetary Policy. Secrecy. Interest Rates. Federal Reserve.
AB This paper addresses the issue of how secrecy of the short run monetary policy objectives affects the behavior of the federal funds rate. Secrecy is modelled by assuming that financial markets are uncertain about a parameter in the Federal Reserve reaction function. They learn over time about this parameter, by means of Bayes rule; this learning process is reflected in the time path of interest rates and of reserve aggregates. The main result of the paper is that secrecy tends to increase the volatility of the funds rate and of reserve aggregates.

PD February 1987. **TI** Learning and the Volatility of Exchange Rates. **AA** Department of Economics, University of California at Los Angeles. **SR** University of California at Los Angeles Department of Economics Working Paper: 434; Department of Economics - University of California at Los Angeles Los Angeles, CA 90024. **PR** $2.50. **JE** 431, 441, 313. **KW** Exchange Rates. Learning. Volatility Tests. Bubbles. Market Uncertainty.
AB This paper investigates the implications for the volatility of exchange rates of specifying market uncertainty as parameter uncertainty. Private agents learn by means of Bayes rule about a parameter of the stochastic process generating the exogenous variables. Learning is shown to magnify the reaction of exchange rates to random shocks to the "market fundamentals". This magnification effect of learning can explain the rejections of the econometric tests on the variance bounds and on the absence of bubbles that have been reported in the literature.

TI A Positive Theory of Fiscal Deficits and Government Debt in a Democracy. **AU** Alesina, Alberto; Tabellini, Guido.

Taylor, William E.

TI Efficient Estimation and Identification of Simultaneous Equations Models with Covariance Restrictions. **AU** Hausman, Jerry A.; Newey, Whitney K.; Taylor, William E.

ten, Raa Thijs

TI On the Continuum Approach of Spatial and Some Local Public Goods or Product Differentiation Models. **AU** Berliant, Marcus; ten, Raa Thijs.

Thomas, Stephen H.

TI The Distribution of Consumer Price Changes in the U.K. **AU** Mixon, Grayham E.; Safford, J. Claire; Thomas, Stephen H.

Tideman, Nicolaus T.

PD February 1987. **TI** Independence of Clones as a Criterion for Voting Rules. **AA** Virginia Polytechnic Institute and State University. **SR** Virginia Polytechnic Institute and State University Working Paper in Economics: E87-02-03; Department of Economics, Virginia Polytechnic Institute and State University, Blacksburg, VA 24061. **PG** 37. **PR** Free by request. **JE** 025. **KW** Voting Rules. Clones. Social Choice. Voting Rule.
AB "Independence of clones" is a generalization of the condition of not being subject to the perverse consequences of vote splitting that arise under plurality voting. A new voting rule that is at least "almost always" independent of clones is obtained by the following algorithm: Require the collective ranking of the candidates to be consistent with the paired comparisons decided by the largest and second largest margins, and then, if possible, with the paired comparison decided by the third largest margin, and so on. The advantages of this "ranked pairs" rule over previously proposed voting rules that are independent of clones is that it possesses Condorcet consistency, non-negative responsiveness, and "resolvability" (the property that every tie be within one vote of being broken).

Tillmann, Georg

PD October 1985. **TI** Taxation As Social Insurance. **AA** University of Bonn. **SR** Universitat Bonn Sonderforschungsbereich 303 - Discussion Paper: A-27; Sonderforschungsbereich 303 an der Universitat Bonn, Adenauerallee 24-42, D-5300 Bonn 1, DEUTSCHLAND. **PG** 23. **PR** No Charge. **JE** 024, 026, 321. **KW** Equity. Efficiency. Welfare Function. Redistribution.
AB Taxation as an instrument for more equity - and the resulting conflict: "equity versus efficiency" have been examined extensively in the literature in the last decade. On the other hand, redistributive taxation as "social insurance" in models where income is uncertain, has received considerably less attention although there exists a vast literature on "Taxation and risk-taking". In this paper we reconsider and widen a problem already handled by Mirrlees: In an economy with a continuum of identical consumers output is uncertain but the distribution depends on labour effort. There is a problem of incomplete information: Government cannot observe labour supply but only the existing output. Then the following question arises: which tax-function should be chosen to maximize a (given) governmental "welfare function"? The design of such an optimal program of redistributive taxation must weigh the benefits from this "social insurance" - the variance of after-tax income is reduced by it - against the dead weight costs of such a tax on transactions. Because of non-observability of labour supply moral hazard aspects are brought in the economy, a problem which has received much attention in the recent literature. In this sense, nearly related to our paper are those by Holmstrom and Shavell which consider similar problems in a principal agent relationship. For a two period model, compare Varian, too The plan of the paper is as follows: In part one we define the model and formulate our results and corresponding remarks. All proofs are given in section two.

Tobin, James

PD January 1987. **TI** Financial Intermediaries. **AA** Yale University. **SR** Yale Cowles Foundation Discussion Paper: 817; Cowles Foundation for Research in Economics, 30 Hilhouse Avenue, Box 2125 Yale Station, New Haven, CT 06520. **PG** 32. **PR** No Charge. **JE** 314, 310. **KW** Financial Intermediaries.
AB This is an essay on Financial Intermediaries written for The New Palgrave. It includes sections on national wealth, financial markets, assets, risk and regulation.

PD February 1987. **TI** The Future of Social Security:

One Economist's Assessment. **AA** Cowles Foundation for Research in Economics, Yale University. **SR** Yale Cowles Foundation Discussion Paper: 820; Cowles Foundation for Research in Economics, Yale University, Box 2125 Yale Station, New Haven, CT 06520. **PG** 94. **PR** No Charge. **JE** 915, 918, 914, 913, 921. **KW** Social Security. Government Expenditures. OASI. Old Age. Elderly.

AB Three interrelated issues must be faced in assessing the future of OASI. I shall discuss each in turn. Balancing Contributions and Benefits. The overriding long-run issue about OASI is the balance between the tax contributions of the young and the benefits of the old. The system is now geared to scale up benefits automatically so as to maintain the ratio of benefits to contemporaneous wages, the replacement ratio, at its historical level of roughly 40 percent. Payroll tax rates are the residual balancing item in the OASI financial equation. They have been raised steadily for years, and according to current projections they will have to be raised substantially next century if the replacement ratio is to be maintained. The generations involved, however, may at some point prefer to move to or toward a different option-freezing the tax rates and adjusting future benefits instead. This would mean that in the 21st century the benefit/wage ratio would fall: OASI benefits would still be rising in absolute purchasing power, but they would decline relative to the wages of active workers. It is not too soon to begin serious consideration of the options. Erosion of Confidence. The confidence of young workers in Social Security has eroded in recent years. Some are worried that the system will go broke. Others perceive that their rate of return on the payroll tax contributions they and their employers make will be quite low, in contrast to the interest rates they observe in financial markets today. They wonder why participation in such a system should be compulsory. The link between the contributions of, or on behalf of, any individual participant and his or her eventual benefits is quite loose, and quite mysterious. The system is a hybrid, mixing social retirement insurance with some intragenerational redistribution in favor of workers with low earnings. This is bound to diminish the rates of return high wage workers perceive they can earn through OASI. Old issues return anew: Should OASI be made more purely an insurance program, letting the general federal budget handle redistribution via needs-tested transfers? Should the link between contributions and benefits be actuarially fair for individual participants? Should the benefit entitlements earned by past contributions be reported regularly and clearly to participants throughout their careers? Should compulsory participation be limited to defined levels of contributions and benefits? As Robert Ball recounts in Chapter I of this volume, the founders of Social Security confronted these questions and compromised. Compromises, even theirs, are not graven in stone. Times, circumstances, and attitudes change. At the end of this chapter I shall sketch, as an option worth considering, a system that links contributions and benefits more explicitly and tightly. Financing Social Security. The issues just raised regarding the links between contributions and benefits for individual participants are related to questions about the financing of the system as a whole. Until now Social Security has been mainly a pay-as-you-go system, using its current receipts from workers' contributions to pay its current benefits. Its trust fund, as its reserves are called, has been deliberately kept small. Under the 1983 legislation, this fund will be grow to unprecedented heights relative to annual outlays over the next 15 to 20 years. Thereafter it is projected to decline, and to vanish after midcentury. A case can be made on macroeconomic grounds for a funded system in preference to pay as you go. Full funding would mean a trust fund commensurate to OASI's liabilities for the future benefits earned by the contributions previously paid in. The accumulation of such a fund, it can be argued, would add to national saving and investment enough productive capital to yield the promised benefits. That yield might well be a higher rate of return than pay as you go can offer. History cannot be rerun. A shift to funding would take nearly a half century to accomplish. Moreover, the proposal inevitably raises the question of the relation between Social Security trust funds and the overall federal budget. I shall discuss these financial issues, and in my sketch of possible reforms for the next century I shall describe how the long transition to a funded system might be managed.

Trinder, C.

TI Public and Private Sector Pay: Some Further Results. **AU** Foster, N.; Henry, S. G. B.; Trinder, C.

Truman, Edwin M.

PD December 1986. **TI** The International Debt Situation. **AA** International Finance Division, Federal Reserve Board. **SR** Board of Governors of the Federal Reserve System International Finance Discussion Paper: 298; International Finance Division, Board of Governors of the Federal Reserve System, Washington, D.C. 20551. **PG** 45. **PR** No Charge. **JE** 432, 433, 441, 112, 121. **KW** International Debt. International Lending. International Monetary Fund. IBRD. Volcker. Baker Plan. Bradley Plan.

AB This paper examines several aspects of the problem of international debt that has been a feature of the world economy of the 1980s. First, the paper considers the sources or causes of these problems. It goes on to consider responses to those problems, the outlook for international lending, and the criteria that might be used to conclude that they have been dealt with effectively. The paper concludes by examining some of the risks to continued progress in dealing with the problem of international debt.

Turnovsky, Stephen J.

PD January 1987. **TI** Monetary Growth, Inflation and Economic Activity in a Dynamic Macro Model. **AA** Department of Economics, University of Illinois. **SR** National Bureau of Economic Research Working Paper: 2133; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PR** $2.00. **JE** 023, 311, 134. **KW** Money Growth. Inflation. Dynamic Macroeconomics.

AB This paper analyses the effects of an increase in the monetary growth rate within a dynamic optimizing macroeconomic model. Both the short-run and long-run effects, and therefore the adjustments along the transitional path, depend critically upon the tax structure and the firm's corresponding optimal financial decisions.

With all bond financing, the effects depend upon the extent to which interest payments are tax deductible for corporations. If this is sufficiently high, the effects of an increase in the monetary growth rate are generally expansionary. With low interest deductibility, or if the tax structure induces equity financing, the effects are generally contractionary.

PD January 1987. **TI** Alternative Modes of Deficit Financing and Endogenous Monetary and Fiscal Policy 1923-1982. **AU** Turnovsky, Stephen J.; Wohar, Mark E. **AA** Turnovsky: Department of Economics, University of Illinois. Wohar: Department of Economics, University of Miami. **SR** National Bureau of Economic Research Working Paper: 2123; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PR** $2.00. **JE** 322, 311, 321, 133, 212. **KW** Deficits. Monetary Policy. Fiscal Policy. Government Financing. Macroeconomic Model. Neutrality. Stabilization Policy.

AB This paper first investigates the effects of alternatives modes of deficit financing on the unemployment rate, inflation rate, and the real interest rate, within the framework of a small complete macroeconomic model. Secondly, it examines the nature of monetary and fiscal reaction functions. The two periods 1923-1960 and 1961-1982 are considered, with substantial differences in behavior and policy being shown to exist between them. The most important conclusion is that long-run monetary neutrality properties shown to exist over the latter period are not intrinsic to the economy, but rather are the result of the stabilization policies being conducted over that period.

Ullah, Aman

PD July 1986. **TI** Unbiased Estimation of the MSE Matrix of Stein-Rule Estimators, Confidence Ellipsoid and Hypothesis Testing. **AU** Ullah, Aman; Srivastava, V. K.; Carter, R. A. L.; Srivastava, M. S. **AA** Ullah: Department of Economics, University of Western Ontario. V.K. Srivastava: Department of Economics, Lucknow University. Carter: Department of Economics, University of Western Ontario. M.S. Srivastava: Department of Economics, University of Toronto. **SR** University of Western Ontario Centre for Decision Sciences and Econometrics Technical Report: 12; The Centre for Decision Sciences and Econometrics, Department of Economics, Social Sciences Center, University of Western Ontario, London, Ontario, CANADA N6A 5C2. **PG** 19. **PR** No Charge. **JE** 211. **KW** Confidence Ellipsoid. Stein-Rule Estimator. Bias. Hypothesis Test. MSE. Linear Restrictions. Power.

AB During the recent past, several families of improved estimators for the coefficient vector in a linear regression model have been proposed and their small-sample properties have been analyzed. Among them, an interesting family is that of the Stein-rule estimators, the properties of which have been extensively studied, see e.g., Judge and Bock (1978) and Vinod and Ullah (1981). However, none of the work so far, has dealt with the estimation of the bias vector and the mean squared error (MSE) matrix which is of paramount importance to users, for it is widely recognized that merely a point estimate without some measure of variability is inadequate. This is what has prompted this article in which, in Section 2, we have derived the unbiased estimators of the exact bias vector and the exact MSE matrix of Stein-rule estimators. We then consider, in Section 3, the use of estimated MSE matrices in the construction of confidence ellipsoids. Finally, in Section 4, we consider the problem of testing linear restrictions using an F-ratio based on the Stein-rule estimator.

PD October 1986. **TI** Nonparametric Recursive Estimation of a Multivariate, Marginal and Conditional DGP with an Application to Specification of Econometric Models. **AU** Ullah, Aman; Singh, Radhey S. **AA** Ullah: Department of Economics, University of Western Ontario. Singh: Department of Mathematics and Statistics, University of Guelph. **SR** University of Western Ontario Centre for Decision Sciences and Econometrics Technical Report: 14; The Centre for Decision Sciences and Econometrics, Department of Economics, Social Sciences Center, University of Western Ontario, London, Ontario, CANADA N6A 5C2. **PG** 24. **PR** No Charge. **JE** 211. **KW** Nonparametric. Multivariate. Regression Curve. Kernel. Asymptotics. Normality. Specification. DGP. Data Generating Process. Bandwidth.

AB Nonparametric recursive kernel estimators of a multivariate data generating process (DGP) are presented and their asymptotic biases, variances and distributions are examined. Weak and strong consistency of these estimators are also proved. Remarks on the choice of the kernel function and the bandwidth function are made. Recursive estimates of the marginal and the conditional DGP are deduced from the estimates of the multivariate density. Finally, an application of these estimates to estimation and specification of econometric models is pointed out.

Ulph, Alistair

PD 1986. **TI** Recent Advances in Oligopoly Theory. **AA** University of Southampton. **SR** University of Southampton Discussion Paper in Economics and Econometrics: 8627; Department of Economics, University of Southampton, Southampton 509 5NH, ENGLAND. **PG** 39. **PR** No Charge. **JE** 611, 026. **KW** Oligopoly. Game Theory. Conjectural Variation. Repeated Games. Imperfect Information.

AB Oligopoly theory is such a large field that it would be unrealistic to attempt to survey all the recent developments in that area in a paper, especially if one also wants to be didactic. So I have chosen to try to give the survey more coherence by looking at a particular aspect of recent developments in oligopoly theory, namely the impact of recent developments in game theory on our understanding of oligopoly. Inevitably, rather large areas of oligopoly theory are going to be ignored, or referred to only briefly, and obvious omissions will be contestable markets, spatial competition, imperfect competition and general equilibrium theory. Some issues not covered in this survey can be found in a recent coauthored survey (Geroski, Phlips and Ulph, 1985) which I do not wish to duplicate. I will begin by setting out what I take to be the textbook view of oligopoly theory and the criticisms this gives rise to (section 2). Subsequent sections will attempt to show how far recent developments have gone in trying

to meet these criticisms. In section 3 I survey the work of Rational and Reasonable Conjectural Variations, and this leads naturally to a discussion of repeated games (section 4). The implications of imperfect information, either about the actions of other oligopolists or about their character, are surveyed in section 5. Finally, I broaden the scope of the familiar oligopoly model to include variables other than the usual price/quantity choices, such as investment in production capacity, and this leads to the concept of strategic competition, the topic of section 6.

van Damme, Eric

PD October 1986. **TI** Renegotiation-Proof Equilibria in Repeated Prisoner's Dilemma. **AA** University of Bonn. **SR** Universitat Bonn Sonderforschungsbereich 303 - Discussion Paper: A-84; Sonderforschungsbereich 303 an der Universitat Bonn, Adenauerallee 24-42, D-5300 Bonn 1, DEUTSCHLAND. **PG** 14. **PR** No Charge. **JE** 026. **KW** Game Theory. Subgame Perfect. Prisoner's Dilemma. Renegotiation. Repeated Games.

AB In this note it is shown that the requirement of renegotiation proofness does not eliminate any subgame perfect equilibrium outcome of the repeated prisoner's dilemma. Specifically it is demonstrated that, when players are sufficiently patient, any feasible and individually rational outcome can be sustained by means of an equilibrium in which the punishing player always profits by carrying out the punishment.

van Wijnbergen, Sweder

PD December 1986. **TI** Government Deficits, Private Investment and the Current Account: An Intertemporal Disequilibrium Analysis. **AA** Centre for Economic Policy Research. **SR** Centre for Economic Policy Research Discussion Paper: 143; Centre for Economic Policy Research, 6 Duke of York Street, London SW1Y 6LA, ENGLAND. **PG** 34. **PR** 1 pound ($2.00) individuals; 1.50 pounds ($3.00) companies, libraries, institutions. **JE** 410, 441, 824, 023, 321, 431. **KW** Real-Wage Rigidities. Deficit Spending. Terms of Trade. Crowding-In. Keynesian Unemployment. Classical Unemployment. Intertemporal Model.

AB We use a model with full intertemporal optimization and short-run rigidities in the real wage of the Fischer-Gray type to demonstrate the effects of deficit spending in different employment regimes. We allow for prices to exhibit upward flexibility, although once set at the beginning of one period they will be downwardly rigid until the beginning of the next period. We show that, conditional on a plausible assumption about public and private sector discount rates, under Keynesian unemployment deficit spending reduces unemployment, improves the future terms of trade and therefore leads to an increase in private investment (crowding-in) and to a deterioration of the current account. Under classical unemployment, goods markets clear but unemployment persists because of contract-based real wage rigidity. Fiscal expansion then goes partly into prices (terms of trade improvement) and only partly into quantities. The latter occurs to the extent that contract based real consumption wage rigidity, coupled with a terms of trade improvement, allows a lower real product wage. A temporary increase in government expenditure in classical unemployment leads to a bigger terms of trade improvement today than tomorrow, so both income and substitution effects lead to a current account improvement. The cost of capital increases more than the value of future output and investment falls. This also improves the first period current account. The direct impact of increased first period government expenditure may offset these surprising positive effects on the first period current account. Finally we show that the more open the economy is, the larger is the output response and the smaller the price response to a fiscal expansion in the presence of classical unemployment. This contrasts with the Keynesian unemployment regime, where a higher import component in expenditure leads to more dissipation of effective demand and smaller output effects.

PD January 1987. **TI** Fiscal Deficits, Exchange Rate Crises and Inflation. **AA** Development Research Department, World Bank. **SR** National Bureau of Economic Research Working Paper: 2130; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PR** $2.00. **JE** 322, 431, 134. **KW** Deficit. Exchange Rates. Inflation. Government Budget. Exchange Rate Freeze.

AB The analysis focuses on the government budget constraint and the resolution of inconsistent implications of different policy instruments under that constraint. We show how, under floating exchange rates, external shocks or internal structural reforms may cause jumps in inflation and the exchange rate through their impact on the government budget. In order to achieve a sustainable reduction in inflation an exchange rate freeze or crawling peg is shown to require restrictions not only on domestic credit, but also on the rate of increase in interest-bearing public debt. We endogenize regime collapse by introducing rational speculation against the central bank, and show that if an exchange rate freeze collapses, post-collapse inflation will exceed the rate prevailing before the freeze started.

TI Savings, Commodity Market Rationing and the Real Rate of Interest in China. **AU** Feltenstein, Andrew; Lebow, David; van, Wijnbergen Sweder.

Vasarhelyi, Miklos A.

PD May 1986. **TI** Financial Accounting Databases: Methodological Implications of Using the Compustat and Value Line Databases. **AU** Vasarhelyi, Miklos A.; Yang, C. H. **AA** Vasarhelyi: Columbia Business School and AT and T Bell Laboratories. Yang: University of Hawaii (Manoa), College of Business Administration. **SR** Columbia First Boston Series in Money, Economics and Finance Working Paper: FB-86-30; First Boston Series, Graduate School of Business, Columbia University, New York, NY 10027. **PG** 12. **PR** $5.00 academics and non-profit institutions; $6.00 corporations (add $1.00 outside United States, Canada and Puerto Rico). **JE** 223, 229. **KW** Empirical Database. Errors. Compustat. Value Line. Financial Databases. Measurement Errors. Data Errors.

AB This paper compares two commonly used financial databases -- Value Line (VL) and Compustat (CMP) in their qualitative and quantitative features. Data is examined using seven variables through eleven years.

Data differences found are further analyzed for 1981 data where a sample is compared to figures directly drawn from financial statements. Substantial data differences are found, most of which are attributable to definitional discrepancies and others to direct measurement error. For example 39.5 per cent of the depreciation figures and 23.2 per cent of the inventory numbers were discrepant by more than 1 per cent of the absolute value of the measure. The paper also provides suggestions on the selection and usage of financial databases, and discusses shortcomings that should be expected in using accounting databases. Finally, recommendations are presented for dealing with these problems to preparers of databases as well as standard setters.

Villa, Pierre

TI Du Bon Choix de l'Agregat Monetaire (Intermediate Targeting: The Right Choice). **AU** Sterdyniak, H.; Villa, Pierre.

von Hagen, Jurgen

TI An Aggregate Supply Function for the Open Economy with Flexible Exchange Rates. **AU** Neumann, Manfred J. M.; von, Hagen Jurgen.

TI Relative Price Risk in an Open Economy with Flexible Exchange Rates. **AU** Neumann, Manfred J. M.; von, Hagen Jurgen.

Wadhwani, Sushil

TI Myopia, The 'Dividend Puzzle' and Share Prices. **AU** Nickell, Stephen; Wadhwani, Sushil.

TI Myopia, the 'Dividend Puzzle', and Share Prices. **AU** Nickell, Stephen; Wadhwani, Sushil.

Waldman, Michael

PD July 1985. **TI** Information on Worker Ability: An Analysis of Investment within the Firm. **AA** University of California at Los Angeles. **SR** University of California at Los Angeles Department of Economics Working Paper: 375; Department of Economics - University of California at Los Angeles Los Angeles, CA 90024. **PG** 35. **PR** $2.50. **JE** 022, 026, 811, 821. **KW** Asymmetric Information. Worker Ability. Information Investment.

AB This paper considers a world in which firms invest in the production of information concerning workers, where this information is used to help allocate workers among tasks. The question addressed is, does the firm have an incentive to make a socially efficient investment? The major results of the analysis are two. If information produced is not observed by other firms and individual task assignments are also not publicly observed, then the firm has an incentive to invest optimally in information production. If, however, either the information produced or the task assignment is public knowledge, then there is a tendency for the firm to underinvest.

TI Responders Versus Nonresponders: A New Perspective on Heterogeneity. **AU** Haltiwanger, John; Waldman, Michael.

Walsh, Carl E.

PD January 1987. **TI** Testing for Real Effects of Monetary Policy Regime Shifts. **AA** Federal Reserve Bank of San Francisco. **SR** National Bureau of Economic Research Working Paper: 2116; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PR** $2.00. **JE** 311, 211, 212. **KW** Monetary Policy. Interest Rates. Regime Changes. Testing.

AB Huizinga and Mishkin (1986) have recently proposed a simple method for testing whether monetary policy regime changes have affected the ex-ante real rate of interest. This paper shows that care must be taken in choosing the set of variables on which to project the ex-post real rate if inferences about the ex-ante real rate are to be drawn. It is shown that Huizinga and Mishkin's tests cannot distinguish between shifts in the real rate process and shifts in the inflation process.

Wanka, Alfred

TI On a Problem About Covering Lines by Squares. **AU** Kern, Walter; Wanka, Alfred.

Warshawsky, Mark

TI Specification of the Joy of Giving: Insights from Altruism. **AU** Abel, Andrew B.; Warshawsky, Mark.

Watson, Mark

TI Inference in Linear Time Series Models with Some Unit Roots. **AU** Sims, Christopher A.; Stock, James H.; Watson, Mark W.

TI Testing for Common Trends. **AU** Stock, James H.; Watson, Mark A.

Waud, Roger N.

TI Real Business Cycles and the Lucas Paradigm. **AU** Froyden, Richard T.; Waud, Roger N.

Weil, David A.

TI The Adjustment of Expectations to a Change in Regime: A Study of the Founding of the Federal Reserve. **AU** Mankiw, N. Gregory; Miron, Jeffrey A.; Weil, David A.

Weimer, Theodor

PD 1986. **TI** Betriebswirtschaftliche Erklarungen zur Existenz von Organisationen. **AA** University of Bonn. **SR** Universitat Bonn Sonderforschungsbereich 303 - Discussion Paper: D-1; Sonderforschungsbereich 303 an der Universitat Bonn, Adenaueralle 24-42, D-5300 Bonn 1, DEUTSCHLAND. **PG** 36. **PR** No Charge. **JE** 511.

Weingast, Barry R.

PD November 1986. **TI** The Industrial Organisation of Congress (or, Why Legislatures, Like Firms, are not Organized as Markets). **AU** Weingast, Barry R.; Marshall, William J. **AA** Weingast: Washington University; Visiting Scholar, Hoover Institution. Marshall: Goldman, Sachs, and Company. **SR** Stanford Hoover Institute Working Paper in Economics: E-86-68; Domestic Studies Program Working Paper Series, Hoover Institution, Stanford University, Stanford, CA 94305.

PG 51. PR No Charge. JE 025, 611, 322, 323, 324. KW Congress. Industrial Organization. New Economics of Organization. Legislatures.
AB This paper provides a theory of legislative institutions that parallels the theory of the firm and the theory of contractual institutions. Like market institutions, legislative institutions reflect two key components: the goals or preferences of individuals (here reelection-seeking representatives); and the relevant transactions costs. Our conclusions are twofold. First, we show how the legislative institutions enforce bargains among legislators; and second, why, given the peculiar form of bargaining problems found in legislatures, specific forms of non market exchange prove superior to market exchange.

TI Constitutional Regulation of Legislative Choice: The Political Consequences of Judicial Deference to Legislatures. AU Riker, William H.; Weingast, Barry R.

Weiss, Andrew

TI Macro-Economic Equilibrium and Credit Rationing. AU Stiglitz, Joseph E.; Weiss, Andrew.

PD February 1987. TI Validating Hiring Criteria. AU Weiss, Andrew; Landau, Henry. AA Weiss: Bell Communications Research. Landau: Bell Laboratories. SR National Bureau of Economic Research Working Paper: 2167; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. PR $2.00. JE 825, 811, 824, 841, 821. KW Worker Productivity. Hiring Criteria. Promotion Standards. Job Performance Measurement.
AB We construct a model in which firms use workers' productivities in determining their job assignments. A worker's productivity must exceed some lower bound to satisfy the minimum qualifications for a particular job. When the worker's productivity exceeds some upper bound he is promoted. Under these conditions it is possible that the better educated and more experienced individuals would be the least productive workers on every job, even though, for each worker, education and experience increases his productivity. Whether this anomalous results occurs depends on the underlying distribution of ability in the population and the job assignment policy delineated above. One implication of our analysis is that firms that use hiring criteria that accurately predict a worker's success on the job may not be able to validate those criteria through measurements of the performance of the workers that they had hired. EEOC rules that require hiring criteria to be validated in that fashion may penalize firms with the most efficient hiring and promotion standards.

PD March 1987. TI Incentives and Worker Behavior: Some Evidence. AA Bell Communications Research. SR National Bureau of Economic Research Working Paper: 2194; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. PR $2.00. JE 824, 825, 821. KW Incentives. Workers. Labor Productivity. Wages. Merit Wages. Seniority System. Quit Rates. Job Tenure.
AB This paper is concerned with three types of incentive programs. First, individual wage incentives that cause a worker's efforts to have a major effect on his pay. Second, group incentives in which the pay of an individual is determined by the output of a group of workers -- a group can be as small as a four member work team or as large as the whole firm. Finally, seniority based payment schemes in which the pay of a worker rises rapidly with his tenure with the firm. We show that these payment schemes have the effects in practice that we would predict from optimizing behavior by workers. We find that group incentives tend to compress the productivity distribution of workers. This is because the relative performance of the most productive workers tends to fall, and the most and least productive workers have relatively high quit rates when workers are paid on group incentives. We also present evidence that suggests that the low quit rates in large Japanese firms may be due to steep wage -- tenure profiles in those firms.

TI Factors Affecting the Output and Quit Propensities of Production Workers. AU Klein, Roger; Spady, Richard; Weiss, Andrew.

Welsch, Heinz

PD 1985. TI A Model of Exchange Rates and Foreign Trade for Nine OECD Countries. AA University of Bonn. SR Universitat Bonn Sonderforschungsbereich 303 - Discussion Paper: B-34; Sonderforschungsbereich 303 an der Universitat Bonn, Adenauerallee 24-42, D-5300 Bonn 1, DEUTSCHLAND. PG 26. PR No Charge. JE 431, 421, 441, 132, 211, 122. KW Foreign Trade. Financial Flows. World Model. Exchange Rates. OECD.
AB Foreign trade and financial flows constitute the basic economic linkages between national economies. They depend on national economic variables like income, price levels and interest rates as well as on the conversion factors by which the variables of the individual countries are related, namely exchange rates. Conversely, national economic variables and exchange rates are influenced by the flows of commodities, services and capital. The present paper is concerned with two elements of this interdependent system: exchange rates and foreign trade. The model to be presented here is a part of the econometric world model presently under construction within the Bonn-IIASA Research Project on Economic Growth and Structural Change. The basic features of the exchange rate and foreign trade model as well as of the total model can be seen from the research plan of this project, see Krelle (1985). With respect to foreign trade it is planned to model not only aggregate imports and exports but also to disaggregate them according to both, country of origin or destination, respectively, and commodity groups. At present, estimation equations have been established only for aggregate imports and exports and their respective prices. According to the top-down principle adopted in the research plan this constitutes the basis for the two types of disaggregation just mentioned. In this paper the model of exchange rates and of aggregate foreign trade for the following countries is presented: United States of America, Federal Republic of Germany, Japan, France, United Kingdom, Italy, the Netherlands, Belgium/Luxembourg and Canada. For these countries exchange rates are modelled as equilibrium exchange rates, i.e. they are determined by the condition that the foreign exchange markets be cleared. Real exports and imports of goods and services are modelled by export and import

demand functions whereas the corresponding prices are determined from the supply side. In the next three sections the theoretical background of the equations for exchange rates, export and import demand and export and import prices is outlined. Then the estimation results and ex post forecasts are presented.

TI Economic Structural Change and Long-Term-Fluctuations in Economic Growth. **AU** Krelle, W.; Dobrinsky, R.; Gajda, J.; Ross, H.; Szekely, I.; Welsch, H.

TI Exchange Rate Determination for Interdependent Economies. **AU** Krelle, Wilhelm; Welsch, Heinz.

PD February 1986. **TI** An Aggregate Import Demand Model for Long-Term Projections. **AA** University of Bonn. **SR** Universitat Bonn Sonderforschungsbereich 303 - Discussion Paper: B-61; Sonderforschungsbereich 303 an der Universitat Bonn, Adenauerallee 24-42, D-5300 Bonn 1, DEUTSCHLAND. **PG** 25. **PR** No Charge. **JE** 411, 431, 132. **KW** Import Demand. Long Term Projection. OECD. Import Ratios. World Model.
AB An aggregate import demand function is derived, estimated and tested which avoids the unreasonable long-term behavior frequently generated by the most widely accepted type of import demand equations. The specification suggested is a version of the dynamic linear expenditure system which allows to capture the impact of "standard" demand quantities and structural and cyclical effects on aggregate import demand. It offers an explanation for differences in import price elasticities obtained by estimating the model for nine industrialized countries. In long-term simulations under scenarios of equilibrium growth it yields convergence of import ratios within six to sixteen years.

West, Kenneth D.

PD December 1986. **TI** A Standard Monetary Model and the Variability of the Deutschemark-Dollar Exchange Rate. **AA** Woodrow Wilson School, Princeton University. **SR** National Bureau of Economic Research Working Paper: 2102; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PR** $2.00. **JE** 431, 311. **KW** Exchange Rates. Monetary Model. Money Demand. Purchasing Power Parity.
AB This paper uses a novel test to see whether the Meese (1985) and Woo (1985) models are consistent with the variability of the deutschemark - dollar exchange rate 1974-1984. The answer, perhaps surprisingly, is yes. Both models, however, explain the month to month variability as resulting in a critical way from unobservable shocks to money demand and purchasing power parity. It would therefore be of interest in future work to model one or both of these shocks as explicit functions of economic variables.

PD December 10, 1986. **TI** The Insensitivity of Consumption to News About Income. **AA** Woodrow Wilson School, Princeton University. **SR** Princeton Woodrow Wilson School Discussion Paper in Economics: 119; Woodrow Wilson School, Princeton University, Princeton, NJ 08544. **PG** 34. **PR** No Charge. **JE** 921, 212, 131, 023. **KW** Consumption Function. Permanent Income. Variance Bounds Test. Unit Roots. Representative Consumer.
AB This paper uses a variance bounds test to see whether consumption is too sensitive to news about income to be consistent with a standard permanent income model, under the maintained hypothesis that income has a unit root. It is found that, if anything, consumption is less sensitive than the model would predict. This implication is robust to the representative consumer having private information about his future income that the econometrician does not have, to wealth shocks, and to transitory consumption. This suggests the importance in future research on the model of allowing for factors that tend to make consumption smooth.

Whalley, John

TI Regional Effects of Taxes in Canada: An Applied General Equilibrium Approach. **AU** Jones, Rich; Whalley, John.

Wheatley, Simon

TI Spot and Forward Foreign Exchange, Risk and Stochastic Policy. **AU** Lawrence, Colin; Wheatley, Simon.

White, Alice P.

TI Responses to Deregulation: Retail Deposit Pricing from 1983 through 1985. **AU** Mahoney, Patrick I.; White, Alice P.; OBrien, Paul F.; McLaughlin, Mary M.

Wijnbergen, Sweder Van

TI Budget Deficits, Interest Rates and the Incentive Effects of Income Tax Cuts. **AU** Bean, Charles R.; Wijnbergen, Sweder Van.

Wilcox, Stephen P.

TI Family Structure, Race, and the Feminization of Poverty. **AU** Kniesner, Thomas J.; McElroy, Marjorie B.; Wilcox, Stephen P.

Wildasin, David E.

TI Ex Post versus Ex Ante Optimal Policies for Risky Activities. **AU** Boadway, Robin W.; Wildasin, David E.

Willis, Robert J.

PD December 1986. **TI** What Have We Learned from the Economics of the Family? **AA** University of Chicago and Economics Research Center/NORC. **SR** Economics Research Center/NORC Discussion Paper: 87-1; Economics Research Center/NORC, 6030 S. Ellis, Chicago, IL 60637. **PG** 30. **PR** $2.00; send requests to Librarian, NORC. **JE** 841, 851, 910, 921, 931. **KW** Family Economics. Baby Boom. Family Instability. Teenage Pregnancy. Divorce.
AB This paper provides a selective survey of research in the field of family economics since 1960. It attempts to assess its effectiveness in answering a set of questions concerning the determinants of demographic transition and its relationship to economic development, the causes of the post-World War II baby boom, and the causes and consequences of various aspects of family instability such as growth in teenage pregnancy and divorce.

Wilson, Charles

TI Equilibrium in Preemption Games With Complete Information. **AU** Hendricks, Kenneth; Wilson, Charles.

Winter, Ralph A.

PD December 1986. **TI** "Crises" in Competitive Insurance Markets. **AA** The University of Toronto and National Fellow, Hoover Institution. **SR** Stanford Hoover Institute Working Paper in Economics: E-86-74; Domestic Studies Program Working Paper Series, Hoover Institution, Stanford University, Stanford, CA 94305. **PG** 70. **PR** No Charge. **JE** 916, 022, 026. **KW** Insurance. Limited Liability. Tort Law. Liability Insurance.

AB This paper offers a model of equilibrium in competitive insurance markets that explains features of the current "crisis" in liability insurance. I take as exogenous a shock of dependence among the risks insured in the market, due to instability in current tort law. When risks are dependent, insurers with limited liability need sufficient net wealth to offer credibly any given level of coverage. Firms constrained to offer credible insurance policies must react to a shock of increased dependence by a) raising more equity, b) reducing the number of policies offered, c) reducing the coverage of each policy or d) raising premiums above actuarially fair values. With a perfect capital market, only the first of these reactions is observed. Where there is a positive net opportunity cost to raising additional equity, all four reactions are predicted. The last three are the "availability, adequacy and affordability" aspects of the insurance crisis.

TI Is Exclusive Dealing Anti-Competitive? **AU** Mathewson, G. Franklin; Winter, Ralph A.

Wohar, Mark E.

TI Alternative Modes of Deficit Financing and Endogenous Monetary and Fiscal Policy 1923-1982. **AU** Turnovsky, Stephen J.; Wohar, Mark E.

Wolfe, John R.

PD December 1986. **TI** How Are Women's Earnings Affected By the Female-Intensities of Their Occupations? **AA** Department of Economics, Michigan State University. **SR** Michigan State Econometrics and Economic Theory Workshop Paper: 8605; Department of Economics, Michigan State University, East Lansing, MI 48824. **PG** 24. **PR** No Charge. **JE** 917, 812, 813, 824, 826, 841, 851. **KW** Occupational Segregation. Women's Wages. Women. Job Tenure. Discrimination. Self-Selection.

AB Theories of occupational segregation and self-selection are reviewed and empirically assessed. A cross-sectional wage equation which includes a measure of the femaleness of each woman's occupation is estimated. The results indicate that women in female-intensive occupations compensate with general training for a low return to tenure under the current employer. This finding and the findings from an estimated occupation equation undermine the usual Human Capital view of women's occupational self-selection, favoring models in which occupational segregation is due to employer screening of workers with respect to expected job tenure.

Yamamoto, Yoshitsugu

PD April 1986. **TI** A Path Following Algorithm for Stationary Point Problems. **AA** University of Tsukuba. **SR** Universitat Bonn Sonderforschungsbereich 303 - Discussion Paper: 86415; Sonderforschungsbereich 303 an der Universitat Bonn, Adenauerallee 24-42, D-5300 Bonn 1, DEUTSCHLAND. **PG** 17. **PR** No Charge. **JE** 213. **KW** Fixed Point Algorithm. Polytope. Stationary Point. Complementarity Problem.

AB We propose a path following algorithm for the stationary point problem: given a polytope omega contained in Rn and an affine function f: omega into Rn find a point X* in Omega such that X*f(X*) less than or equal to Xf(X*) for any X in omega. The linear system to be handled has only n+1 equations while the linear complementarity problem to which the problem is reduced has n+m equations, where m is the number of constraints defining omega. The algorithm is a variable dimension fixed point algorithm having as many rays as the vertices of omega. It first leaves the starting point w in omega toward a vertex of omega chosen by solving the linear programming problem: minimize Xf(w) subject to x in omega, and then moves on convex hulls of w and higher dimensional faces of omega. Generally speaking, it terminates with a stationary point as soon as it hits the boundary of omega.

Yang, C. H.

TI Financial Accounting Databases: Methodological Implications of Using the Compustat and Value Line Databases. **AU** Vasarhelyi, Miklos A.; Yang, C. H.

Younes, Yves

PD October 1986. **TI** Competitive Equilibrium for Incomplete Market Structures. **AA** CEPREMAP. **SR** CEPREMAP Discussion Paper: 8623; CEPREMAP, 142 rue du Chevaleret, 75013 Paris, FRANCE. **PG** 25. **PR** 20 FF. **JE** 021, 022. **KW** Commodity Bundles. General Market Structures. Exchange Ratio. Price System. Demand Function. Incomplete Markets. Walras' Law.

AB The objective is to analyse, in a natural way, problems of existence and determinacy of competitive equilibria when the markets structures are incomplete. Then, within the limits of the differential approach, a general formalism is proposed, which allows to study easily the problems at hand. The usual properties of demand functions (behaviour near the boundary, Slutsky matrices and Walras Law) are carried over to the case the typical consumer chooses his net trade no more necessarily in an hyperplane, but more generally in a vector subspace of any dimension. These results point out the fact that the notion of a price vector has to be replaced by the notion of a price system or, alternatively by the notion of a vector of exchange ratios between bundles of commodities.

PD November 1986. **TI** Competitive Equilibrium for Incomplete Market Structures. **AA** CEPREMAP. **SR** CEPREMAP Discussion Paper: 8701; CEPREMAP, 142 rue du Chevaleret, 75013 Paris, FRANCE. **PG** 23. **PR** FF. **JE** 021, 022. **KW** General Market Structures. Demand Functions. Pseudo-Equilibrium. Equilibrium. Incomplete Markets.

AB Using the tools built in the first chapter, one shows

that for every market structure and every vector of initial endowments, there exists a pseudo-equilibrium and that, generically, a pseudo-equilibrium is an equilibrium. Moreover, the set of pseudo-equilibria is generically finite. On the contrary, when the market structure is in some sense endogeneous, the set of equilibria is very often infinite. It is shown that the indeterminacy result gotten in the model with financial securities is a result of this general principle.

Young, Allan R.

PD February 1987. **TI** Consumers' Transportation Costs: A Rationalization for Loss Leaders? **AA** Virginia Polytechnic Institute and State University. **SR** Virginia Polytechnic Institute and State University Working Paper in Economics: E87-02-01; Working Paper Coordinator, Department of Economics Sandy Hall, Blacksburg, VA 24061. **PG** 30. **PR** No Charge. **JE** 531, 611. **KW** Loss Leaders. Nonlinear Pricing. Transportation Costs. Retailers.

AB Retailers employ door prizes and loss leaders to lure customers to their stores. A rationale apparently embraced by sellers is that these tactics are justified by consumers' transportation costs: since travelling expenses create demand complementarity, loss leaders might well be optimal; profit maximization might require negative entrance fees as well. The paper examines pricing by a single "department store" or "shopping center" in a spatial context, and compares competition to collusion, uniform pricing to two-part tariffs. Inspection of first-order conditions for profit maximization indicates that transportation costs fail to justify door prizes or loss leaders under a variety of market forms. Allocative efficiency and capacity constraints are also addressed.

Zarnowitz, Victor

PD December 1986. **TI** The Record and Improvability of Economic Forecasting. **AA** Graduate School of Business, University of Chicago. **SR** National Bureau of Economic Research Working Paper: 2099; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PR** $2.00. **JE** 132, 212. **KW** Forecasting. Econometric Models. Business Cycles. Turning Points. Trends.

AB Have macroeconomic forecasts grown more or less accurate over time? This paper assembles, examines, and interprets evidence bearing on this question. Contrary to some critics, there are no indications that United States forecasts have grown systematically worse, that is, less accurate, more biased, or both. Neither do any definite trends in a positive direction emerge from comparisons of annual and quarterly multiperiod forecasts and time-series projections for the principal aggregative variables. The argument is developed and to some extent documented that major failures of forecasting are related to the incidence of slowdowns and contractions in general economic activity. Not only the forecasts of real Gross National Product growth and unemployment but also those of nominal GNP growth and inflation often go seriously wrong when such setbacks occur. Forecasters tend to rely heavily on the persistence of trends in spending, output, and the price level. More attention to data and techniques that are sensitive to business cycle movements and turning points could help improve their record.

Zeckhauser, Richard

TI Treasury Bill Futures as Hedges Against Inflation Risk. **AU** Patel, Jayendu; Zeckhauser, Richard.

TI Amnesty, Enforcement and Tax Policy. **AU** Leonard, Herman B.; Zeckhauser, Richard J.

TI Assessing Dynamic Efficiency: Theory and Evidence. **AU** Abel, Andrew B.; Mankiw, N. Gregory; Summers, Lawrence H.; Zeckhauser, Richard J.

Zilcha, Itzhak

TI Aggregate and Distributional Effects of Social Security. **AU** Karni, Edi; Zilcha, Itzhak.

Zink, Helmut

PD November 1986. **TI** The Role of Market Intransparency in Insurance Market Models - A Reconsideration of the Rothschild-Stiglitz Insurance Market Model. **AA** University of California at Los Angeles and University of Berne Switzerland. **SR** University of California at Los Angeles Department of Economics Working Paper: 424; Department of Economics - University of California at Los Angeles Los Angeles, CA 90024. **PG** 60. **PR** $2.50. **JE** 026, 022. **KW** Incomplete Information. Adverse Selection. Price Dispersion. Insurance Markets. Market Intransparency.

AB Rothschild and Stiglitz (1976) showed in their insurance market model (R-S model) that imperfect asymmetrically distributed information can imply non-existence of Nash equilibria. We supplement their model with market intransparency (i.e., customers do not know all offers). When no Nash equilibrium exists in the original R-S model then, under market intransparency, there emerges a market solution according to which many different contracts, arranged as to a certain distribution, are offered simultaneously. If there exists an equilibrium in the original R-S model, the two equilibria coincide. Customers' welfare is not affected by the degree of market intransparency. Instead of intransparency, alternative frictions ensure analogous solutions.