ABSTRACTS OF WORKING PAPERS IN ECONOMICS

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

Abdel-Latif

PD January 1993. **TI** The Role of Barter Trade in Promoting Non-Traditional Exports: A Note on the Egyptian Experience. **AU** Abdel-Latif; Abla M.; Nugent, Jeffrey B. **AA** Abdel-Latif: American University in Cairo. Nugent: University of Southern California. **SR** University of Southern California Arthur Andersen Working Paper Series: 9314; Department of Economics, University of Southern California, University Park, Los Angeles, CA 90089-0253. **PG** 14. **PR** no charge. **JE** O19, O55, F14. **KW** Barter Trade. Countertrade. Egypt. Export Diversification.

AB Since the mid-1970's balance of payments-constrained developing countries have made increasing use of countertrade as a vehicle for achieving their objectives of increasing and diversifying their exports. Very little attention, however, has yet been given to assessments of the efficacy of such arrangements in achieving their objectives. This note provides a brief but rather telling examination of the Egyptian experience in this respect. While the results show that the provisions of the barter trade agreements put heavy emphasis on non-traditional exports, they also show that between 1985 and 1989 the gap between target and realized values was considerably higher for non-traditional items than traditional ones and increased rather steadily over time. The liberalization of overall trade beginning in 1988 led to a decline in barter trade between 1987 and 1989 but the streamlining of barter trade agreements and opening them up to private trading firms in 1990 led to a modest increase in barter trade, specially with respect to non-traditional commodities by 1991.

Abla M.

TI The Role of Barter Trade in Promoting Non-Traditional Exports: A Note on the Egyptian Experience. **AU** Abdel-Latif; Abla M.; Nugent, Jeffrey B.

Abraham, Jesse M.

PD June 1994. **TI** Bubbles in Metropolitan Housing Markets. **AU** Abraham, Jesse M.; Hendershott, Patric H. **AA** Abraham: Federal Home Loan Mortgage Corporation and National Bureau of Economic Research. Hendershott: Ohio State University. **SR** National Bureau of Economic Research Working Paper: 4774; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PG** 15. **PR** $5.00. **JE** L60, D43. **KW** Real Estate. Bubbles. Housing Markets.

AB A commonsense and empirically supported approach to explaining metropolitan real house price changes is for the theory to describe an equilibrium price level to which the market is constantly adjusting. The determinants of real house price appreciation, then, can be divided into two groups, one that explains changes in the equilibrium price and the other that accounts for the adjustment dynamics or changing deviations from the equilibrium price. The former group includes the growth in real income and real construction costs and changes in the real after-tax interest rate. The latter group consists of lagged real appreciation and the difference between the actual and equilibrium real house price levels. Either group of variables can explain a little over two-fifths of the variation in real house price movements in 30 cities over the 1977-92 period; together, they explain three-fifths.

Adams, James D.

PD June 1994. **TI** Recent Twists of the Wage Structure and Technology Diffusion. **AA** University of Florida and Bureau of the Census. **SR** Bureau of the Census Center for Economic Studies Discussion Paper: 94-5; Center for Economic Studies, Bureau of the Census, Washington, DC 20233. **PG** 61. **PR** $15.25. **JE** C31, J31, O32. **KW** Wages. Technical Change. Science. R&D. International Trade.

AB This paper is an empirical study of the impact on U.S. wage structure of domestic technology, foreign technology, and import penetration. A model is presented which combines factor proportions theory with a version of growth theory. The model, which assumes two levels of skill, suggests that domestic technology raises both wages, while foreign technology, on a simple interpretation, lowers both. Trade at a constant technology, as usual, lowers the wage of that class of labor used intensively by the affected industry, and raises the other wage. The findings support the predictions of the model for domestic technology. On the other hand, they suggest that technological change, and perhaps other factors, have obscured the role of factor proportions in the data. Indeed, foreign technology and trade have the same effect on wages at different skill levels, not the opposite effects suggested by factor proportions. Finally, a simple diffusion story, in which foreign technology lowers all U.S. wages, is also rejected. Instead, uniformly higher U.S. wages, not lower, appear to be associated with the technology and trade of the oldest trading partners of the U.S., the economies of the West. Not so for Asia, especially the smaller countries which have recently accelerated their trade with the U.S. Their effects are uniformly negative on wages, suggesting a distinction between shock and long run effects of foreign technology and trade.

PD June 1994. **TI** The Span of the Effect of R&D in the Firm and Industry. **AU** Adams, James D.; Jaffe, Adam B. **AA** Adams: University of Florida and Bureau of the Census. Jaffe: Harvard University and National Bureau of Economic Research. **SR** Bureau of the Census Center for Economic Studies Discussion Paper: 94-7; Center for Economic Studies,

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Bureau of the Census, Washington, DC 20233. **PG** 37. **PR** $9.25. **JE** D21, O32. **KW** R&D. Technical Change. Productivity.

AB Previous studies have found that the firm's own research and spillovers of research by related firms increase firm productivity. In contrast, in this paper we explore the impact of firm R&D on the productivity of its individual plants. We carry out this investigation of within firm R&D effects using a unique set of Census data. The data, which are from the chemicals industry, are a match of plant level productivity and other characteristics with firm level data on R&D of the parent company, cross-classified by location and applied product field. We explore three aspects of the span of effect of the firm's R&D: (i) the degree to which its R&D is "public" across plants; (ii) the extent of its localization in geographic space; and (iii) the breadth of its relevance outside the applied product area in which it is classified. We find that (i) firm R&D acts more like a private input which is strongly amortized by the number of plants in the firm; (ii) firm R&D is geographically localized, and exerts greater influence on productivity when it is conducted nearer to the plant; and (iii) firm R&D in a given applied product area is of limited relevance to plants producing outside that product area. Moreover, we find that while geographic localization remains significant, it diminishes over time. This trend is consistent with the effect of improved telecommunications on increased information flows within organizations. Finally, we consider spillovers of R&D from the rest of industry, finding that the marginal product of industry R&D on plant productivity, though positive and significant, is far smaller than the marginal product of parent firm's R&D.

PD August 1994. **TI** A Guide to R&D Data at the Center for Economic Studies U.S. Bureau of the Census. **AU** Adams, James D.; Peck, Suzanne. **AA** Adams: Bureau of the Census and University of Florida. Peck: Bureau of the Census. **SR** Bureau of the Census Center for Economic Studies Discussion Paper: 94-9; Center for Economic Studies, Bureau of the Census, Washington, DC 20233. **PG** 64. **PR** $16.00. **JE** C42, O32. **KW** Research and Development. Survey Data. Survey Methodology.

AB The National Science Foundation R&D Survey is an annual survey of firms' research and development expenditures. The survey covers 3000 firms reporting positive R&D. This paper provides a description of the R&D data available at the Center for Economic Studies (CES). The most basic data series available contains the original survey R&D data. It covers the years 1972-92. The remaining two series, although derived from the original files, specialize in particular items. The Mandatory Series contains required survey items for the years 1973-88. Items reported at firms' discretion are in the Voluntary Series, which covers the years 1974-89. Both of the derived series incorporate flags that track quality of the data. Both also include corrections to the data based on original hard copy survey evidence stored at CES. In addition to describing each data set, we offer suggestions to researchers wishing to use the R&D data in exploring various economic issues. We report selected response rates, discuss the survey design, and provide hints on how to use the data.

Ades, Alberto F.

PD April 1994. **TI** Evidence on Growth, Increasing Returns and the Extent of the Market. **AU** Ades, Alberto F.; Glaeser, Edward L. **AA** Ades: Harvard University. Glaeser: Harvard University and National Bureau of Economic Research. **SR** National Bureau of Economic Research Working Paper: 4714; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PG** 26. **PR** $5.00. **JE** O11, O41. **KW** Economic Growth. Increasing Returns. Development.

AB We examine two sets of economies, (19th century U.S. states and 20th century less developed countries) where growth rates are positively correlated with initial levels of development to document how these dynamic increasing returns operate. We find that open economies do not display a positive connection between initial levels and later growth; instead, closed economies do display this positive correlation (i.e. divergence). This evidence suggests that increasing returns operate by expanding the extent of the market (as in the big push theories of Murphy, Shleifer and Vishny (1989)). For U.S. states, we also find that larger markets enhance growth by increasing the division of labor. Among LDC's, while more diversified production increases growth, diversification is negatively associated with openness for the poorest economies (as in the quality ladder theories of Boldrin and Scheinkman (1988), Young (1991) and Stokey (1991)). However, and despite the negative effect that openness has on the diversity of production and, thus, on growth, we find that openness still substantially increases growth for these poorer economies.

PD April 1994. **TI** Trade and Circuses: Explaining Urban Giants. **AU** Ades, Alberto F.; Glaeser, Edward L. **AA** Ades: Harvard University. Glaeser: Harvard University and National Bureau of Economic Research. **SR** National Bureau of Economic Research Working Paper: 4715; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PG** 22. **PR** $5.00. **JE** J11, H11, R11. **KW** Population. City Growth. Urban Concentration.

AB Using theory, case studies, and cross-country evidence, we investigate the factors behind the concentration of a nation's urban population in a single city. High tariffs, high costs of internal trade, and low levels of international trade increase the degree of concentration. Even more clearly, politics (such as the degree of instability) determines urban primacy. Dictatorships have central cities that are, on average, 50 percent larger than their democratic counterparts. Using information about the timing of city growth, and a series of instruments, we conclude that the predominant causality is from political factors to urban concentration, not from concentration to political change.

Agenor, Pierre-Richard

PD June 1994. **TI** Macroeconomic Adjustment With Segmented Labor Markets. **AU** Agenor, Pierre-Richard; Aizenman, Joshua. **AA** Agenor: International Monetary Fund. Aizenman: Dartmouth College and National Bureau of Economic Research. **SR** National Bureau of Economic Research Working Paper: 4769; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PG** 33. **PR** $5.00. **JE** J41, E24, E62, J38. **KW** Labor Market. Fiscal Policy. Efficiency Wages.

AB This paper analyzes the macroeconomic effects of fiscal and labor market policies in a small open developing country. The basic framework considers an economy with a large informal production sector and a heterogeneous work force. The labor market is segmented as a result of efficiency considerations and minimum wage laws. The basic model is then extended to account for unemployment benefits, income taxation, and imperfect labor mobility across sectors. Under the assumption of perfect labor mobility, we show that a permanent reduction in government spending on nontraded goods leads in the long run to a depreciation of the real exchange rate, a fall in the market-clearing wage for unskilled labor, an increase in output of traded goods, and a lower stock of net foreign assets. A permanent reduction in the minimum wage for unskilled workers improves competitiveness, and expands the formal sector at the expense of the informal sector. Hence, in a two-sector economy in which the minimum wage is enforced only in the formal sector and wages in one segment of the labor market are competitively determined, efficiency wage considerations do not alter the standard neoclassical presumption. A reduction in unemployment benefits is also shown to have a positive effect on output of tradable goods by lowering both the level of efficiency wages and the employment rent of skilled workers.

Aghion, Philippe

PD May 1994. **TI** On the Speed of Transition in Central Europe. **AU** Aghion, Philippe; Blanchard, Olivier Jean. **AA** Aghion: Massachusetts Institute of Technology. Blanchard: Massachusetts Institute of Technology and National Bureau of Economic Research. **SR** National Bureau of Economic Research Working Paper: 4736; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PG** 35. **PR** $5.00. **JE** O11, O52, E13. **KW** Economic Transition. Privatization. Central Europe.

AB Transition in Central Europe is four years old. State firms which dominated the economy are struggling with market forces. A new private sector quickly emerged and has taken hold. Unemployment, which did not exist, is high and still increasing. Will this process of transition accelerate, or slow down? Will unemployment keep increasing? Can things go wrong and how? Our paper represents a first pass at answering those questions. The basic structure of the model we develop is standard, that of the transition from a low to a high productivity sector. But we pay attention to two aspects which strike us as important. The first is the interactions between unemployment and the decisions of both state and private firms. The second are the idiosyncrasies which come from the central planning legacy, from the structure of control within state firms to the lack of many market institutions, which limits private sector growth. We start with a description of transition in Poland so far. We then develop a model and use it to think about the determinants of the speed of transition and the level of unemployment. Finally, we return to the role of policy and the future in Poland, as well as the causes of cross-Central European country variations.

Aizenman, Joshua

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

Alberini, Anna

PD May 1993. **TI** Choice of Thresholds for Efficient Binary Discrete Choice Estimation. **AU** Alberini, Anna; Carson, Richard T. **AA** Alberini: Resources for the Future. Carson: University of California, San Diego. **SR** Resources for the Future, Quality of the Environment Division Discussion Paper: 93-14; Quality of the Environment Division, Resources for the Future, 1616 P Street, NW., Washington, DC 20036. **PG** 50. **PR** $3.00 prepaid (U.S. funds only). **JE** C25, C93, C51. **KW** Binary Response Model. Optimal Design.

AB We study the loss of information in estimating the central tendency of a normal population when a discrete indicator rather than the underlying continuous response variable is used. The threshold levels which define the value taken by the discrete indicator are shown to affect the efficiency of the parameter estimates. Several methods for choosing thresholds are compared and the potential efficiency gains from optimally choosing the thresholds are shown to be large. The robustness of different design criteria to incorrect information about the parameters is explored.

PD May 1993. **TI** Optimal Designs for Discrete Choice Contingent Valuation Surveys: Single-Bound, Double-Bound and Bivariate Models. **AA** Resources for the Future. **SR** Resources for the Future, Quality of the Environment Division Discussion Paper: 93-15; Quality of the Environment Division, Resources for the Future, 1616 P Street, NW., Washington, DC 20036. **PG** 34. **PR** $3.00 prepaid (U.S. funds only). **JE** C25, C51, C93. **KW** Contingent Valuation. Welfare Measures. Bivariate Models.

AB This paper finds the designs for discrete-choice contingent valuation surveys that maximize the precision with respect to a statistic of interest. Throughout this paper, the statistic of interest is the median WTP. We assume the distribution of the WTP to be log normal, but our results extend readily to other distributions as well. We adopt a variety of criteria as the measures of the precision, and show that for single-bound CV surveys the optimal designs are typically two-bid designs. These designs typically require some information about the values of the parameters of the WTP distribution. The evidence from our simulations shows that ad hoc survey designs with a larger number of bid values may also perform well with respect to the statistic(s) of interest. We also find the optimal designs for CV surveys that are implemented with a follow-up. For those surveys, we propose the optimal designs for double-bound models and for bivariate probit models. The difference between two classes of models lies in the assumption about the underlying WTP measurement(s): a double-bound model assumes one WTP amount underlying the two discrete choice questions, whereas the bivariate model presumes that two, possibly correlated, numerical WTP values drive the two responses.

PD June 1993. **TI** Determinants of Participation in Accelerated Vehicle Retirement Programs. **AU** Alberini, Anna; Harrington, Winston; McConnell, Virginia. **AA** Alberini and Harrington: Resources for the Future. McConnell: University of Maryland and Resources for the Future. **SR** Resources for the Future, Quality of the Environment Division Discussion Paper: 93-18; Quality of the Environment Division, Resources for the Future, 1616 P Street, NW., Washington, DC 20036. **PG** 38. **PR** $3.00 prepaid (U.S. funds only). **JE** Q25, Q28, C35. **KW** Scrappage Program. Qualitative Choice Model. Contingent Valuation. WTA.

AB Accelerated vehicle retirement programs are currently being promoted as one of the ways stationary sources can trade emissions reductions with mobile sources of pollution under the 1990 Clean Air Act. There is, however, much uncertainty about how effective these programs will be for reducing mobile source emissions. One of the factors of uncertainty is what drives participation in these programs. In this paper we present a theoretical model of the owner's car tenure and scrappage decision. The decision to participate in the program depends on the difference between the offer price and the owner's reservation price for the vehicle. Following the theoretical model, we develop an econometric model for participation in a scrappage program and estimate it using data from a recent scrap program that targeted pre-1980 vehicles in the state of Delaware, the Delaware Vehicle Retirement Program (DVRP). We estimate willingness to accept to give up the vehicle as a function of owner characteristics, vehicle characteristics, and use of the vehicle using a number of different specifications. The sample components are weighted to accurately reflect the underlying population.

PD January 1994. **TI** Estimating an Emissions Supply Function From Accelerated Vehicle Retirement Programs. **AU** Alberini, Anna; Harrington, Winston; McConnell, Virginia. **AA** Alberini and Harrington: Resources for the Future. McConnell: University of Maryland. **SR** Resources for the Future Discussion Paper: 94-09; Resources for the Future, 1616 P Street, N.W., Washington, D.C. 20036. **PG** 39. **PR** $3.00 (prepaid, U.S. funds only). **JE** Q21, Q25. **KW** Emissions. Scrappage Program. Qualitative Choice Model. Contingent Valuation. WTA.
AB Local authorities and industries, now under pressure from EPA and Congress to reduce emissions and improve air quality, have shown interest in programs that offer to purchase and retire old, often high-polluting vehicles. Their potential use as emission offsets makes it important to develop methods to quantify the emission reductions from such programs. Quantification is not straightforward, because once a vehicle is scrapped it is impossible to observe what its remaining lifetime emissions would have been without scrappage, and selection bias prevents average fleet values from being used for this purpose. In this paper we analyze the results from an experimental vehicle retirement program in the state of Delaware, during which certain groups of pre-1980 vehicle owners were offered $500 for their vehicles. About half of these vehicles were subjected to emission tests to ascertain emission rates. In addition, all participants and a random sample of nonparticipants were administered a questionnaire to obtain data on household and vehicle characteristics and vehicle use. The questionnaire also contained a series of questions designed to determine the reservation price for the vehicle. With this unique data set we estimate in a recursive model the relationship between the owner's reservation price and the expected remaining life of the vehicle. We use this relationship, along with emission and mileage data and assumptions about replacement transportation, to estimate a supply curve for emission reductions. This supply curve predicts the emission reductions as a function of the offer made to eligible vehicles in a scrappage program and is used in turn to determine the cost effectiveness of the program at various offer prices.

PD February 1994. **TI** Efficiency v. Bias of Willingness-to-Pay Estimates: Bivariate and Interval Data. **AA** Resources for the Future. **SR** Resources for the Future Discussion Paper: 94-16; Resources for the Future, 1616 P Street, N.W., Washington, D.C. 20036. **PG** 37. **PR** $3.00 (prepaid, U.S. funds only). **JE** C23, C25, C33, C35. **KW** Willingness-to-Pay. Bivariate Model. Correlation Coefficient.
AB Dichotomous choice contingent valuation (CV) surveys with a follow-up have been introduced to obtain more precise information about the respondents' willingness-to-pay (WTP) for environmental quality or a natural resource while at the same time preserving the desirable properties of the referendum CV method. Because the WTP estimates from CV surveys are generally used to form policy recommendations and to estimate the damage to natural resources due to hazardous substances and oil spills that government agencies seek compensation for, it is imperative that WTP estimates from the statistical model for WTP remain stable in the face of changes in the assumptions about WTP. This paper offers a contribution along this line of research by comparing the interval-data models traditionally associated with surveys with a follow-up and the recently proposed bivariate binary response models, which allow for the responses to the two payment questions of the survey to be driven by two, potentially different, and potentially correlated, unobserved WTP values.

PD April 1994. **TI** Reducing Emissions From Old Cars: The Economics of the Delaware Vehicle Retirement Program. **AU** Alberini, Anna; Edelstein, David; Harrington, Winston; McConnell, Virginia. **AA** Alberini, Edelstein, and Harrington: Resources for the Future. McConnell: University of Maryland. **SR** Resources for the Future Discussion Paper: 94-27; Resources for the Future, 1616 P Street, N.W., Washington, D.C. 20036. **PG** 146. **PR** $3.00 (prepaid, U.S. funds only). **JE** Q21, Q25. **KW** Air Pollution. Mobile Source Emissions. Scrappage Program.
AB Accelerated vehicle retirement programs are currently being examined by both states and private industry as one way to reduce hydrocarbon (HC) emissions to comply with strict new reductions required by the 1990 Clean Air Act in the regions of the U.S. with the most serious ambient ozone problems. There is, however, much controversy about how effective these programs will be for reducing mobile source emissions. In this paper, we examine the costs and potential of accelerated vehicle retirement programs to reduce emissions, focusing on the characteristics of vehicles recruited into such programs. The analysis is based on data from a demonstration vehicle retirement program in the state of Delaware, the Delaware Vehicle Retirement Program (DVRP), which offered $500 per vehicle and scrapped 125 pre-1980 vehicles in 1992. The DVRP included an extensive data collection effort in which surveys were administered to all participants and a random sample of non-participants. The surveys provide information about household and vehicle characteristics and vehicle use of both participants and non-participants in the program. In addition, about half of the scrapped vehicles were given emissions tests. The surveys and test results allow us to determine how scrapped vehicles are different from the average vehicle in the old car fleet, and to estimate the emissions reduction likely from accelerated vehicle retirement. We focus on estimating expected participation at different offer levels, expected remaining life, usage and emissions levels of the scrapped cars had they remained on the road. We find that vehicles scrapped as part of the Delaware program have a shorter expected remaining life compared with the entire pre-1980 fleet of vehicles in Delaware, but that they are used as extensively as a typical vehicle in the old car fleet. We provide estimates of the cost-effectiveness of the Delaware program and find that scrap programs targeted at the dirtiest vehicles are likely to be much more cost-effective than untargeted programs. Finally, we estimate a supply curve for emissions reductions, which is used in turn to determine the cost-effectiveness of the program at various offer prices.

PD June 1994. **TI** Random-Effect Models of Willingness to Pay Using Discrete Response CV Survey Data. **AU** Alberini, Anna; Kanninen, Barbara J.; Carson, Richard T. **AA** Alberini and Kanninen: Resources for the Future.

Carson: University of California, San Diego. **SR** Resources for the Future Discussion Paper: 94-34; Resources for the Future, 1616 P Street, N.W., Washington, D.C. 20036. **PG** 27. **PR** $3.00 (prepaid, U.S. funds only). **JE** C33, C35. **KW** Contingent Valuation. Random Effect. Overdispersion. Discrete Response.

AB This paper discusses statistical issues associated with estimating willingness-to-pay using discrete response contingent valuation data. We begin by discussing what have become known as single-bounded and double-bounded models and estimate double-bounded models using three well-known contingent valuation data sets that include follow-up WTP questions. We test for model specification and find that in two of the three cases, there is a significant amount of overdispersion. We then address several possible causes of overdispersion including the omission of covariates, revisions of the WTP amounts between questions explained by random effects, structural change, and heteroskedasticity.

Altshuler, Rosanne

PD April 1994. **TI** U.S. Interest Allocation Rules: Effects and Policy. **AU** Altshuler, Rosanne; Mintz, Jack. **AA** Altshuler: Rutgers University and National Bureau of Economic Research. Mintz: University of Toronto. **SR** National Bureau of Economic Research Working Paper: 4712; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PG** 28. **PR** $5.00. **JE** H25, F23, D21. **KW** Tax Reform. Multinational Firms. Interest Expense.

AB One of the important changes of the 1986 tax reform for U.S. multinationals is related to the allocation of interest expense. Prior to 1986, U.S. companies allocated domestic interest expense to the income of foreign affiliates on a non-consolidated basis according to the distribution of gross income or assets. After 1986, a U.S. multinational is required to allocate domestic interest expense on a consolidated basis according to the distribution of U.S. and foreign assets. We analyze the impact of the new interest allocation rules on the financial and investment decisions of U.S. multinationals using data from a survey of multinationals assembled by Price Waterhouse. We find that the allocation of interest expense increases the marginal cost of U.S. debt by about 38 percent for firms with excess foreign tax credits. Our empirical tests suggest that firms have altered the location of their borrowings in response to the new rules. We also find that the requirement to allocate interest expense has a significant impact on the effective tax rate faced by U.S. multinationals. For U.S. domestic investments, the interest allocation rules increase the U.S. effective rate from 17.6 percent to 21.9 percent. The rules also increase the effective tax rates on foreign investments made by U.S. firms.

Amir, Shmuel

PD September 1992. **TI** The Environmental Cost of Sustainable Welfare. **AA** Resources for the Future and Soreq Nuclear Research Center. **SR** Resources for the Future, Quality of the Environment Division Discussion Paper: 92-17; Quality of the Environment Division, Resources for the Future, 1616 P Street, NW., Washington, DC 20036. **PG** 40. **PR** $3.00 prepaid (U.S. funds only). **JE** Q21, Q28, Q31, Q38, B41. **KW** Welfare. Environmental Cost. Resource Allocation. Sustainability.

AB Welfare, the degree of well-being society derives from carrying out its economic and social activities, is sustainable when maintained at a steady level for many years. The environmental costs of sustaining welfare are always positive, but they are divided into two distinct parts: avoidable and unavoidable. The avoidable costs crop up primarily in economically closed systems (i.e., economies that separate their physical from their economic boundaries by regarding some indispensable environmental flows to be economically valueless). Cutting these costs is a social objective of immediate concern because they are a product of an inefficient behavior that stems from stock and flow incompatibility. Basically, the economy builds up other stocks than the environmentally best adapted, and the outcome is an excessive use of environmental resources for the same level of sustainable welfare. Internalization of the misused resources cannot provide more than a temporary relief. By redefining the boundaries of the economy, this measure saves some resources while abusing others. The problem of resource misallocation cannot be solved unless economic capital is restructured while the economy is envisaged to be an economically open system that, to maintain welfare, must extract some economic value from its surroundings. This economic value is the unavoidable costs. It increases with the level of welfare to be sustained and decreases as a consequence of technological advance. However, no amount of technological progress can cut the unavoidable costs completely. Hence, how much welfare is to be sustained and, consequently, how much environmental costs are to be incurred are matters for social decision rather than an immutable law of nature, but the concept of sustainable development, which assumes that the environment and the economy can progress simultaneously, is devoid of scientific merit.

Anderson, Patricia M.

PD June 1994. **TI** Unemployment Insurance Benefits and Takeup Rates. **AU** Anderson, Patricia M.; Meyer, Bruce D. **AA** Anderson: Dartmouth College. Meyer: Northwestern University and National Bureau of Economic Research. **SR** National Bureau of Economic Research Working Paper: 4787; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PG** 30. **PR** $5.00. **JE** J65, H24. **KW** Unemployment Insurance. Taxation. Takeup Rates.

AB Despite clear theoretical predictions of UI effects on takeup there is little work on the link between program generosity and the propensity to file for benefits. Administrative data allow us to assign the potential level and duration of benefits accurately for a sample of workers separating from their employers, whether or not UI was ever actually received. We then use these values along with marginal tax rates as our main explanatory variables in logit equation estimates of the probability that a separating employee receives UI. We find a strong positive effect of the benefit level on takeup, but little effect of the potential duration of benefits. The estimates imply elasticities of the takeup rate with respect to benefits of about 0.46 to 0.78. Our estimates also show that potential claimants respond to the tax treatment of benefits. Simulations of the effects of taxing UI benefits indicate that recent tax changes can account for most of the decline in UI receipt in the 1980's. In addition, we find theoretical and empirical support for the proposition that those with short unemployment spells are less likely to file. We show that if the decision to file for UI is affected by benefit levels and the expected duration of unemployment, it will bias estimates of the effects of UI on unemployment duration.

Antle, John M.

PD April 1993. **TI** Pesticides, Productivity, and Farmer Health: A Philippine Case Study. **AU** Antle, John M.; Pingali, Prabhu L. **AA** Antle: Montana State University and Resources for the Future. Pingali: International Rice Research Institute. **SR** Resources for the Future, Quality of the Environment Division Discussion Paper: 93-10; Quality of the Environment Division, Resources for the Future, 1616 P Street, NW., Washington, DC 20036. **PG** 46. **PR** $3.00 prepaid (U.S. funds only). **JE** Q12, I12. **KW** Pesticides. Farmer Health. Rice Production.

AB This study focuses on two aspects of pesticide productivity: the conventional, direct effect of pesticides used as a production input to control pests; and an indirect human health effect, operating through the effects that pesticide exposure has on farmers' health, and the effects that farmers' health has on farm productivity. Econometric models are estimated and used as the basis for a simulation analysis of the tradeoffs between health and productivity associated with pesticide use. The results show that in two major rice-producing regions of the Philippines, pesticide use has a significant, negative effect on farmer health, and that farmer health has a significant positive effect on productivity. Reducing the use of the most toxic materials, insecticides, would have a small effect on productivity because the productivity loss from reduced pest control would be largely offset by the productivity gain from improved farmer health. It is concluded that policies that reduce insecticide use in Philippine rice production would be likely to generate an unambiguous improvement in social welfare through an improvement in farmer health. Another implication is that if health effects are not considered in the economic assessment of the modern rice technology, the ex ante rate of return to general rice research may be overestimated, while the rate of return to technology that reduces pesticide use may be underestimated, thus biasing the allocation of resources in rice research.

Arguea, Nestor M.

PD 1993. **TI** Estimating Consumer Preferences Using Market Data--An Application to U.S. Automobile Demand. **AU** Arguea, Nestor M.; Hsiao, Cheng; Taylor, Grant. **AA** Arguea: University of West Florida. Hsiao: University of Southern California. Taylor: Hong Kong University of Science and Technology. **SR** University of Southern California Arthur Andersen Working Paper Series: 9316; Department of Economics, University of Southern California, University Park, Los Angeles, CA 90089-0253. **PG** 32. **PR** no charge. **JE** D12, D43, L62. **KW** Hedonic Price. Consumer Preference. Automobile Demand. Market Analysis.

AB This paper explores the possibility of using market data to identify consumer preferences. A utility function composed of "homogeneous" characteristics and good-specific effects is used as a basic link between the goods space and the characteristics space. The functional form for the hedonic price equation and the data requirements for estimating demand and supply of characteristics are derived. We illustrate the methodology by considering the U.S. automobile demand using 1969-86 data compiled from Consumer Reports and Ward's Automotive Yearbook.

Arora, Seema

PD February 1994. **TI** Toward a Theoretical Model of Voluntary Overcompliance. **AU** Arora, Seema; Gangopadhyay, Shubhashis. **AA** Arora: Resources for the Future. Gangopadhyay: India Statistical Institute, Delhi. **SR** Resources for the Future Discussion Paper: 94-15; Resources for the Future, 1616 P Street, N.W., Washington, D.C. 20036. **PG** 39. **PR** $3.00 (prepaid, U.S. funds only). **JE** Q28, Q21. **KW** Voluntary Overcompliance.

AB This paper attempts to explain why firms might voluntarily overcomply with environmental regulation. In our model, all consumers value environmental quality but differ in their willingness to pay, depending on income levels. Information on the environmental performance of firms is available for consumers to exercise their preferences. The model involves a two-stage duopoly game. Firms first choose the level of cleaning technology and then engage in price competition. The market gets segmented by income levels. A minimum standard binding on the dirty firm has the effect of improving the performance of the cleaner firm. The same competitive outcome is obtained by a subsidy.

PD April 1994. **TI** An Experiment in Voluntary Environmental Regulation: Participation in EPA's 33/50 Program. **AU** Arora, Seema; Cason, Timothy N. **AA** Arora: Resources for the Future. Cason: University of Southern California. **SR** Resources for the Future Discussion Paper: 94-10; Resources for the Future, 1616 P Street, N.W., Washington, D.C. 20036. **PG** 25. **PR** $3.00 (prepaid, U.S. funds only). **JE** Q28, Q21, D24. **KW** Voluntary Environmental Regulation. Overcompliance.

AB The U.S. Environmental Protection Agency has initiated the 33/50 program to encourage firms to voluntarily reduce releases and transfers of 17 toxic chemicals. This paper evaluates the factors leading to participation in this program to assess its potential to augment more traditional command and control regulation. The results show that large firms with substantial toxic releases in unconcentrated industries are the most likely participants. The results also indicate that public information and awareness play an important role and that EPA and other regulators can improve environmental performance by encouraging competition in environmental quality.

Asea, Patrick K.

PD May 1994. **TI** Do Long-Run Productivity Differentials Explain Long-Run Real Exchange Rates? **AU** Asea, Patrick K.; Mendoza, Enrique G. **AA** International Monetary Fund. **SR** International Monetary Fund Working Paper: WP/94/60; International Monetary Fund, 700 19th Street, Washington, DC 20431. **PG** 24. **PR** not available. **JE** F41, F31, C68. **KW** General Equilibrium. Productivity Differentials. Foreign Exchange.

AB We develop a two-country, balanced-growth intertemporal general equilibrium model to examine two predictions of the Balassa-Samuelson model, namely that (i) productivity differentials determine the domestic relative price of nontradables and (ii) deviations from purchasing power parity reflect differences in the relative price of nontradables. In our model, the equilibrium relative price of nontradables along the long-run balanced-growth path is determined by the ratio of the marginal products of labor in the tradable and nontradable sectors. The empirical relevance of the Balassa-Samuelson predictions is examined using the Hodrick-Prescott filter to extract long-run components from a panel database for fourteen OECD countries. The evidence indicates that labor productivity differentials do explain long-run, cross-country differences in relative prices. The predicted relative prices, however, are of little help in explaining long-run deviations from purchasing power parity.

Ashton, P. Mark S.

TI Sustainable Forest Ecosystems and Management: A Review Article. **AU** Toman, Michael; Ashton, P. Mark S.

Atkeson, Andrew

PD April 1994. **TI** Reconsidering the Costs of Business Cycles With Incomplete Markets. **AU** Atkeson, Andrew; Phelan, Christopher. **AA** Atkeson: University of Chicago and National Bureau of Economic Research. Phelan: University of Wisconsin-Madison. **SR** National Bureau of Economic Research Working Paper: 4719; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PG** 24. **PR** $5.00. **JE** E32, D63, D43, E52, E62. **KW** Business Cycle. Incomplete Markets. Welfare Measurement.
AB In this paper, we measure the potential welfare gains from counter-cyclical policy in an economy with incomplete markets. In the course of conducting this measurement, we focus on two questions as central to the determination of those potential gains: (1) what is the likely effect of counter-cyclical policy on the nature of the income risk faced by individuals in the economy, and (2) what are the likely general equilibrium effects brought about as asset prices change due to the implementation of counter-cyclical policies? In taking up the first question, we see it as critical to distinguish whether the main effect of counter-cyclical policy is to directly reduce the income risk faced by each individual or is simply to reduce the correlation across individuals in the income risk that they face. We present a model of the wage and employment risk faced by individuals over the cycle in which the levels of those risks are chosen endogenously. On the basis of that model, we argue that the main effect of counter-cyclical policy aimed at reducing aggregate fluctuations may be simply to remove the correlation across individuals in the unemployment risk that they face. We then use asset price data to argue that in an incomplete markets framework, the potential welfare gains from counter-cyclical policy are close to zero.

Attanasio, Orazio P.

PD June 1994. **TI** Relative Wage Movements and the Distribution of Consumption. **AU** Attanasio, Orazio P.; Davis, Steven J. **AA** Attanasio: Stanford University and National Bureau of Economic Research. Davis: University of Chicago and National Bureau of Economic Research. **SR** National Bureau of Economic Research Working Paper: 4771; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PG** 40. **PR** $5.00. **JE** J31, J24, D12. **KW** Wages. Education. Consumption. Insurance.
AB We analyze how relative wage movements across birth cohorts and education groups during the 1980's affected the distribution of household consumption. The analysis integrates the labor economics literature on time variation in the wage structure with the consumption insurance literature. In contrast to previous tests of consumption insurance, we examine the impact of systematic, publicly observable shifts in the hourly wage structure. To circumvent the extreme scarcity of longitudinal data with high quality information on both consumption and labor market outcomes, we draw upon the best available cross-sectional data sources to construct synthetic panel data on consumption, labor supply, and wages. We find that low-frequency movements in the cohort-education structure of pre-tax hourly wages drove large changes in the distribution of household consumption. The results constitute a spectacular failure of the consumption insurance hypothesis, and one that is not explained by existing theories of informationally constrained optimal consumption allocations. We also develop a procedure for assessing the welfare consequences of deviations from full consumption insurance and, in particular, from the failure to insulate the consumption distribution from relative wage shifts across cohort-education groups. For a coefficient of relative risk aversion equal to two, fully insulating households from group-specific endowment variation would raise welfare by an amount equivalent to a uniform 2.7% consumption increase.

PD July 1994. **TI** Is Consumption Growth Consistent With Intertemporal Optimization? Evidence From the Consumer Expenditure Survey. **AU** Attanasio, Orazio P.; Weber, Guglielmo. **AA** Attanasio: Stanford University and National Bureau of Economic Research. Weber: Universita di Venezia. **SR** National Bureau of Economic Research Working Paper: 4795; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PG** 26. **PR** $5.00. **JE** D91, D11. **KW** Intertemporal Choice. Consumer Preferences.
AB In this paper we show that some of the predictions of models of consumer intertemporal optimization are not inconsistent with the patterns of non-durable expenditure observed in U.S. household-level data. Our results and our approach are new in several respects. First, we use the only U.S. micro data set which has direct and complete information on household consumption. The microeconomic data sets used in most of the consumption literature so far contained either very limited information on consumption (like the PSID) or none at all, in which case consumption had to be obtained indirectly from income and changes in assets. Second, we propose a flexible and novel specification of preferences which is easily estimable and allows a general treatment of multiple commodities. We show that a proper treatment of aggregation over commodities can be important, both theoretically and in practice. Third, we present empirical results that show that it is possible to find a reasonably simple specification of preferences, which controls for the effects of changes in demographics and labor supply behavior over the life cycle and which is not rejected by the available data. On our preferred specification, we obtain sharp estimates of key behavioral parameters (including the elasticity of intertemporal substitution) and no rejections of theoretical restrictions. Our results contrast sharply with most of the previous evidence, which has typically been interpreted as rejection of the theory. We show that previous evidence can be explained by the simplifying assumptions made to derive empirically tractable equations. We also show that results obtained using food consumption or aggregate data can be extremely misleading.

Auerbach, Alan J.

PD April 1994. **TI** The U.S. Fiscal Problem: Where We Are, How We Got Here and Where We're Going. **AA** University of Pennsylvania and National Bureau of

Economic Research. **SR** National Bureau of Economic Research Working Paper: 4709; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PG** 35. **PR** $5.00. **JE** H62, H61, H31. **KW** Deficit. Fiscal Policy. Federal Debt.

AB This paper deals with several issues regarding the causes and implications of recent and projected U.S. federal budget deficits. It considers why deficits have remained so large in spite of deficit reduction efforts, evaluates the impact of the recent policies of the Clinton administration, and offers long-range deficit projections. Among the paper's findings are: 1. Until the past year, deficit projections over the past decade have been consistently too optimistic; had initial projections for the current fiscal year proved accurate, the deficit-reducing policies of the early 1990's already would have driven the federal budget well into surplus; there is no single explanation for these large and systematic forecasting errors. 2. The budget rules that legislators have developed to control deficits, including those now in effect, are ill-designed for their apparent purpose. They fail to compensate for forecasting errors and encourage shifts in the timing of revenues and expenditures. The paper presents evidence that such shifting has followed the incentives of the different schemes. 3. The projected decline in the deficit as a share of GDP over the next few years reflects not only the policies already enacted but also the continuation of significant real reductions in discretionary spending--representing a drop of 2.2 percent of GDP between 1994 and 2004. 4. Even if such optimistic forecasts prove to be correct, longer run projections suggest that current fiscal policy is unsustainable. Without any growth in the relative price of health care, the demographic transition still is projected to lead to sharp increases in Social Security and Medicare benefits as a share of GDP, and primary deficits of nearly 4 percent of GDP.

Austin, David H.

PD February 1994. **TI** Patent Citations and Appropriability. **AA** Resources for the Future. **SR** Resources for the Future Discussion Paper: 94-12; Resources for the Future, 1616 P Street, N.W., Washington, D.C. 20036. **PG** 25. **PR** $3.00 (prepaid, U.S. funds only). **JE** O34, G14. **KW** Patent Value. Patent Citations. Appropriability. Innovation.

AB Economists using patent data as indicators of innovative output have long perceived that wide variation in patent values compromises the quality of the data. To overcome this, various attempts have been made to measure patent value and thus improve the data. Using a large collection of biotechnology patents, I attempt to reconcile one particular direct measure of patent value--using stock price reactions to patent events--with a commonly used indirect method. I also evaluate with respect to patent value a citations-based proxy for appropriability. I relate patent-grant-related stock price changes to citations these patents eventually receive from other patents. My results suggest that patents which are eventually to be cited are valued, even initially, more highly by the market than are patents which are never to be cited. I also find that patents whose citations are most often made by the patentee itself tend to be more valuable, other things equal. Thus, to some degree the market's initial valuations of patents appear to be borne out over time. The latter finding suggests that it is reasonable to use the self-citation ratio as an indicator of appropriability: this ratio will be high if outside firms have difficulties building on the patentee's result, and the patent should as a result be more valuable to the patentee, other things equal.

PD June 1994. **TI** Estimating Patent Value and Rivalry Effects: An Event Study of Biotechnology Patents. **AA** Resources for the Future. **SR** Resources for the Future Discussion Paper: 94-36; Resources for the Future, 1616 P Street, N.W., Washington, D.C. 20036. **PG** 40. **PR** $6.00. **JE** G14, O31, O34, L65. **KW** Innovation. Patent Value. Research and Development. Event Study.

AB Patent races in biotechnology are highly competitive. Often a significant number of rival firms receive similar patents, signifying that most biotechnology patents are too narrow to effectively exclude rivals. Still, they must have value or firms would not devote resources to acquire them. What, then, is the value of a patent, and how might it affect rival firms? In this paper I explore these issues in an event-study framework. By using very short-term stock market returns to individual patent events, I can estimate the market's valuation of a new patent, as well as the damages the patent is expected to inflict on firms holding--or vying for--rival patents. Such valuations are useful because they are similar to the expectations-based projections the firms themselves must make in allocating their R&D investments. Focusing on individual patents also unlocks for analysis a wealth of information in the patent documents. I pay particular attention to "important" patents, as I identify them, since I find that they create the greatest value and rivalry effects. The results of the study indicate that there is a significant reaction in the stock market when certain broad types of patents issue (and less so when their applications are filed). Such patents also drive down the values of rival firms. The granting of an important patent appears to raise the net value of the entire industry, although the total losses to the patentee's direct rivals can approach the gains it realizes.

Baily, Martin Neil

PD May 1994. **TI** Downsizing and Productivity Growth: Myth or Reality? **AU** Baily, Martin Neil; Haltiwanger, John; Bartelsman, Eric J. **AA** Baily and Haltiwanger: University of Maryland and National Bureau of Economic Research. Bartelsman: Federal Reserve Board. **SR** National Bureau of Economic Research Working Paper: 4741; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PG** not available. **PR** $5.00. **JE** E23, L60, O47, D24. **KW** Productivity Growth. Manufacturing. Employment.

AB The conventional wisdom is that the rising productivity in the U.S. manufacturing sector in the 1980's has been driven by the apparently pervasive downsizing over this period. Aggregate evidence clearly shows falling employment accompanying the rise in productivity. In this paper, we examine the microeconomic evidence using the plant level data from the Longitudinal Research Database (LRD). In contrast to the conventional wisdom, we find that plants that increased employment as well as productivity contribute almost as much to overall productivity growth in the 1980's as the plants that increased productivity at the expense of employment. Further, there are striking differences by sector (defined by industry, size, region, wages, and ownership type) in the allocation of plants in terms of whether they upsize or downsize and whether they increase or decrease productivity. Nevertheless, in spite of the striking differences across sectors defined in a variety of ways, most of the variance of productivity and employment growth is accounted for by idiosyncratic factors.

Baldwin, John

PD May 1994. **TI** A Comparison of Job Creation and Job Destruction in Canada and the United States. **AU** Baldwin, John; Haltiwanger, John; Dunne, Timothy. **AA** Baldwin: Statistics Canada. Haltiwanger: University of Maryland and National Bureau of Economic Research. Dunne: University of Oklahoma. **SR** National Bureau of Economic Research Working Paper: 4726; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PG** 20. **PR** $5.00. **JE** C82, C22, J61. **KW** Job Flow. Time Series.

AB In recent years a growing number of countries have constructed data series on job creation and job destruction using establishment-level data sets. This paper provides a description and detailed comparison of these new data series for the United States and Canada. First, the Canadian and United States industry-level job creation and destruction rates are remarkably similar. Industries with high (low) job creation in the U.S. exhibit high (low) job creation in Canada. The same is true for job destruction. In addition, the overall magnitude of gross job flows in the two countries is comparable. Second, the time-series patterns of creation and destruction are qualitatively similar but do differ in a number of important respects. In both countries, job destruction is much more cyclically volatile than job creation. This cyclical asymmetry is, however, more pronounced in the United States. The paper finishes with a characterization of the job flow patterns using a modified Blanchard and Diamond (1992) model.

Balzer,

TI Estimating the Effects of Climate Change and Carbon Dioxide on Water Supplies in the Missouri River Basin. **AU** Frederick, Kenneth D.; McKenney, Mary S.; Rosenberg, Norman J.; Balzer, Daniel K.

Bartelsman, Eric J.

TI Downsizing and Productivity Growth: Myth or Reality? **AU** Baily, Martin Neil; Haltiwanger, John; Bartelsman, Eric J.

Bates, Robin

TI Alternative Standards and Instruments for Air Pollution Control in Poland. **AU** Toman, Michael; Cofala, Janusz; Bates, Robin.

Bebchuk, Lucian Arye

PD May 1994. **TI** An Analysis of Fee-Shifting Based on the Margin of Victory: On Frivolous Suits, Meritorious Suits, and the Role of Rule 11. **AU** Bebchuk, Lucian Arye; Chang, Howard F. **AA** Bebchuk: Harvard University and National Bureau of Economic Research. Chang: University of Southern California. **SR** National Bureau of Economic Research Working Paper: 4731; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PG** 40. **PR** $5.00. **JE** K41, D11, D21. **KW** Frivolous Suits. Litigation Costs.

AB We show that when plaintiffs cannot predict the outcome of litigation with certainty, neither the American rule of litigation cost allocation (under which each litigant bears its own expenses) nor the British rule (under which the losing litigant pays the attorneys' fees of the winning litigant) would induce plaintiffs to make optimal decisions to bring suit. In particular, plaintiffs may bring frivolous suits when litigation costs are sufficiently small relative to the amount at stake, and plaintiffs may not bring some meritorious suits when litigation costs are sufficiently large relative to the amount at stake. We analyze the effect of more general fee-shifting rules that are based not only upon the identity of the winning party but also on how strong the court perceives the case to be at the end of the trial--that is, the "margin of victory." In particular, we explore how and when one can design such a rule to induce plaintiffs to sue if and only if they believe their cases are sufficiently strong. Our analysis suggests some considerations to guide the interpretation of Federal Rule of Civil Procedure 11.

PD July 1994. **TI** Efficient and Inefficient Sales of Corporate Control. **AA** Harvard University and National Bureau of Economic Research. **SR** National Bureau of Economic Research Working Paper: 4788; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PG** 31. **PR** $5.00. **JE** L21, L22, G34. **KW** Corporate Control. Market Rule. Equal Opportunity.

AB This paper develops a framework for analyzing transactions that transfer a company's controlling block from an existing controller to a new controller. This framework is used to compare the market rule, which is followed in the United States, with the equal opportunity rule, which prevails in some other countries. The market rule is superior to the equal opportunity rule in facilitating efficient transfers of control but inferior to it in discouraging inefficient transfers. Conditions under which one of the two rules is overall superior are identified; for example, the market rule is superior if existing and new controllers draw their characteristics from the same distributions. Finally, the rules' effects on surplus division are analyzed and this examination reveals a rationale for mandatory rules.

Becker, Gary S.

PD July 1994. **TI** On the Endogenous Determination of Time Preference. **AU** Becker, Gary S.; Mulligan, Casey B. **AA** University of Chicago. **SR** Economics Research Center/NORC Discussion Paper: 94-2; Economics Research Center/NORC, 1155 E. 60th Street, Chicago, IL 60637. **PG** 52. **PR** $2.00; send requests to Librarian, NORC. **JE** D91. **KW** Time Preference. Savings. Preferences.

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

Ben-David, Dan

PD May 1994. **TI** The Great Wars, the Great Crash, and the Unit Root Hypothesis: Some New Evidence About an Old Stylized Fact. **AU** Ben-David, Dan; Papell, David H. **AA** Ben-David: Ben-Gurion University, University of Houston, and Centre for Economic Policy Research. Papell: University of Houston. **SR** National Bureau of Economic Research Working Paper: 4752; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PG** 18. **PR** $5.00. **JE** O41, O47, C31. **KW** Growth Theory. Unit Root. Trend Break.

AB For decades, the prevailing sentiment among economists was that growth rates remain constant over the long run. Kaldor considered this to be one of the six important "stylized facts" that theory should address, and until the emergence of endogenous growth models, this was a fundamental feature of growth theory. This paper uses an endogenous trend break model to investigate the unit root hypothesis for 16 countries, using annual GDP data spanning up to 130 years. Rejection of the unit root, which is facilitated by the inclusion of a trend break, introduces the possibility of examining the long run behavior of growth rates. We find that most countries exhibited fairly steady growth for a period lasting several decades. The termination of this period was usually characterized by a significant, and sudden, drop in GDP levels. But rather than simply returning to their previous steady state path, as predicted by the standard neoclassical growth model, most countries continued to grow at roughly double their prebreak rates for many decades, even after their original growth path had been surpassed.

Berger, Allen N.

PD August 1994. **TI** The Efficiency of Bank Branches. **AU** Berger, Allen N.; Leusner, John H.; Mingo, John J. **AA** Berger: Board of Governors of the Federal Reserve System and Wharton Financial Institution Center. Leusner: University of Chicago. Mingo: Board of Governors of the Federal Reserve System. **SR** Board of Governors of the Federal Reserve System Finance and Economics Discussion Series: 94-26; Board of Governors of the Federal Reserve System, C/O Sharon Kozicki, Mail Stop 61, Federal Reserve Board, Washington, DC 20551. **PG** 56. **PR** no charge. **JE** G21, G28, L11, L89, C33. **KW** Bank. Efficiency. Branch. Merger. Scale.

AB This study measures the efficiency of the branching network of a large U.S. commercial bank over 1989-1991. We find that branches are on average about half of cost-efficient level, so that there are about twice as many branches as would minimize costs. This "overbranching" raises operating costs by about 14%, which may be partially or fully offset by additional bank-wide revenues from providing extra customer convenience. X-inefficiencies are larger, about 20% to 25% of operating costs. These findings may help explain some efficiency results commonly found in bank-level analysis, and also have implications regarding bank mergers, market values of branches, and management of branching networks.

Bernanke, Ben

PD July 1994. **TI** The Financial Accelerator and the Flight to Quality. **AU** Bernanke, Ben; Gilchrist, Simon; Gertler, Mark. **AA** Bernanke: Princeton University and National Bureau of Economic Research. Gilchrist: Board of Governors of the Federal Reserve System. Gertler: New York University and National Bureau of Economic Research. **SR** National Bureau of Economic Research Working Paper: 4789; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PG** not available. **PR** $5.00. **JE** E32, E51, E44. **KW** Credit Market. Financial Accelerator. Business Cycle.

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

Betts, Julian R.

PD August 1994. **TI** The Skill Bias of Technological Change in Canadian Manufacturing Industries. **AA** University of California, San Diego. **SR** University of California, San Diego, Department of Economics Working Paper: 94-18; Working Paper Coordinator, Economics Department, 0508, University of California, 9500 Gilman Drive, La Jolla, CA 92093-0508. **PG** 14. **PR** $3.00 U.S.; $4.00 Foreign; payable to Regents, University of California. **JE** D24, J23, O33. **KW** Production. Employment Determination. Technological Change.

AB The paper tests whether technological change has been neutral in Canadian manufacturing industries, using a system of translog cost share equations for 1962 through 1986. The model features two classes of labor treated as distinct inputs. Tests rejected homotheticity in all industries. Hicks-neutrality was also rejected in 16 of 18 industries. The most common pattern of non-neutral technical change was a bias away from blue-collar workers. Formal tests for skill-neutral innovation rejected the hypothesis in 10 industries in favor of skill-using technical change. The results suggest that in studies of Canadian manufacturing aggregation across labor inputs is inappropriate.

Blackburn, McKinley L.

PD May 1994. **TI** Changes in the Structure of Family Income Inequality in the United States and Other Industrial Nations During the 1980's. **AU** Blackburn, McKinley L.; Bloom, David E. **AA** Blackburn: University of South Carolina. Bloom: Columbia University and National Bureau of Economic Research. **SR** National Bureau of Economic Research Working Paper: 4754; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PG** 29. **PR** $5.00. **JE** J31, J49. **KW** Income Inequality. Family Earnings. Wages.

AB We examine the detailed structure of family income inequality in the United States, Canada, and Australia at various points during the 1980's. In each of these countries we find that income inequality increased among married couple families and that the increases are closely associated with increases in the inequality of husbands' earnings also associated with an increase in education-earnings differentials. In addition, increased earnings inequality is associated with increases in both the variance of wages and the variance of labor supply in the United States and Canada, but only with an increase in the variance of labor supply in Australia. Evidence of an increase in married-couple income inequality is also found for France and the United Kingdom, but not for Sweden or the Netherlands. For married couple families in Canada, Sweden, the United Kingdom, and the United States, we find that increased inequality of family income is closely associated with an increased correlation between husbands' and wives' earnings. A more detailed examination of this correlation in Canada and the United States suggests that the increase in this correlation cannot be explained by an increase in the similarity of husbands' and wives' observable labor market characteristics in either country. Rather, it is explained partly by changes in

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the way those characteristics translate into labor market outcomes and, more important, by changes in the interspousal correlation between unobservable factors that influence labor market outcomes.

Blackman, Allen

PD May 1994. **TI** Asymmetric Information, Credit, and Technology Choice in Developing Agriculture. **AA** Resources for the Future. **SR** Resources for the Future Discussion Paper: 94-33; Resources for the Future, 1616 P Street, N.W., Washington, D.C. 20036. **PG** 35. **PR** $3.00 (prepaid, U.S. funds only). **JE** D82, O12, O16, O33, Q14. **KW** Asymmetric Information. Credit. Technology Choice. Developing Agriculture.

AB Credit constraints are often blamed for the slow and uneven adoption of new technologies in small-scale developing agriculture. Most of the literature attributes these constraints to the variability of returns to investment in this sector. But the literature does not adequately explain why lenders are reluctant to finance investments in productivity enhancing technologies that, by many accounts, provide both higher average and less variable returns. This paper argues that lenders are reluctant to finance such investments because they have asymmetric information about the propensity of small farmers to "divert" credit to non-farm uses and to default intentionally. It develops an analytical model in which imperfectly informed lenders may refuse to finance any investment in a riskless high return technology, regardless of the interest rate they are offered, in order to discourage intentional default.

Blanchard, Olivier Jean

TI On the Speed of Transition in Central Europe. **AU** Aghion, Philippe; Blanchard, Olivier Jean.

Blanchflower, David G.

PD May 1994. **TI** The Legacy of Communist Labor Relations. **AU** Blanchflower, David G.; Freeman, Richard B. **AA** Blanchflower: Dartmouth College and National Bureau of Economic Research. Freeman: Harvard University and National Bureau of Economic Research. **SR** National Bureau of Economic Research Working Paper: 4740; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PG** 11. **PR** $5.00. **JE** P26, J53, J21, O11. **KW** Communism. Economic Transition. Labor Relations.

AB This paper contrasts International Social Science Programme (ISSP) surveys for Hungary, supplemented with related survey data for East Germany, Poland, and Slovenia, with ISSP data for Western countries, to examine the extent to which workers in traditionally communist societies differ in their attitudes toward work conditions, wage inequality, the role of unions and the role of the state in determining labor market outcomes. We find sufficiently marked differences in responses between Hungary and the other previously communist countries and in Western countries to suggest that communism left an identifiable common legacy in the labor area. The citizens of former communist countries evince a greater desire for egalitarianism, are less satisfied with their jobs, and are more supportive of state interventions in the job market and economy than Westerners. These differences suggest that the move to a market economy will be marked by considerable "social schizophrenia" due to an attitudinal legacy of their communist past.

PD June 1994. **TI** Estimating a Wage Curve for Britain 1973-1990. **AU** Blanchflower, David G.; Oswald, Andrew J. **AA** Blanchflower: Dartmouth College. Oswald: London School of Economics. **SR** National Bureau of Economic Research Working Paper: 4770; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PG** 13. **PR** $5.00. **JE** E24, E31. **KW** Wages. Unemployment. Phillips Curve.

AB Following Phillip's original work on the U.K., applied research on unemployment and wages has been dominated by the analysis of highly aggregated time-series data sets. However, it has proved difficult with such methods to uncover statistically reliable models. This paper adopts a different approach. It uses microeconomic data on 175,000 British workers from 1973-1990 to provide evidence for the existence of a negatively sloped relationship linking the level of pay to the local rate of unemployment. This "wage curve" is found to have an elasticity of approximately -0.1. Contrary to the Phillips Curve, no autoregression is found in wages. The paper casts doubt on standard ideas in macroeconomics, regional economics and labor economics.

Blau, Francine D.

PD May 1994. **TI** The Impact of Wage Structure on Trends in U.S. Gender Wage Differentials: 1975-87. **AU** Blau, Francine D.; Kahn, Lawrence M. **AA** Blau: Cornell University and National Bureau of Economic Research. Kahn: Cornell University. **SR** National Bureau of Economic Research Working Paper: 4748; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PG** 37. **PR** $5.00. **JE** J16, J31, J51. **KW** Labor Market. Wage Discrimination. Gender Gap.

AB The U.S. labor market experienced two dramatic developments over the past twenty years: a falling male-female pay gap and a rising level of wage inequality. This paper uses Michigan Panel Study on Income Dynamics (PSID) data for 1975 and 1987 and Current Population Survey (CPS) data for 1971 and 1988 to analyze how this dramatic decline in the gender gap was achieved in the face of shifts in overall wage structure that were increasingly unfavorable to low wage workers. The decrease is traced to a rise in women's relative experience levels and occupational status, and a larger negative impact of de-unionization on male than female workers. In addition, there was a substantial decline in the "unexplained" portion of the pay gap. These "gender-specific" factors were more than sufficient to counterbalance changes in both measured and unmeasured prices which worked against women. Using a simply supply and demand framework, we find that the net effect of supply and demand shifts was unfavorable for women as a group: shifts in the composition of demand during this period favoring female workers were more than offset by the rising relative supply of women. However, supply and demand changes match up fairly well with observed relative changes in the gender gap among skill groups, specifically a faster closing of the gap at the bottom of the skill distribution than at the top. Moreover, our analysis of the sources of the greater progress at the bottom than at the top is consistent with the operation of demand and supply forces.

Bloom, David E.

TI Changes in the Structure of Family Income Inequality in the United States and Other Industrial Nations During the 1980's. **AU** Blackburn, McKinley L.; Bloom, David E.

https://doi.org/10.1017/S0951007900004460 Published online by Cambridge University Press

Bohi, Douglas R.

PD September 1993. **TI** A Perspective on Energy Security and Other Nonenvironmental Externalities in Electricity Generation. **AA** Resources for the Future. **SR** Resources for the Future, Energy and Natural Resources Division Discussion Paper: ENR93-23; Energy and Natural Resources Division, Resources for the Future, 1616 P Street, NW., Washington, DC 20036. **PG** 18. **PR** $3.00 prepaid (U.S. funds only). **JE** Q28, D62. **KW** Externalities. Energy Security. Electricity.

AB Applications of the term externality to nonenvironmental matters are often controversial and ambiguous. This paper argues that these externalities are also rarer or less important than sometimes alleged. The paper examines various potential energy security externalities and concludes that none of them are relevant to decisions regarding electric generation. Externalities may exist with regard to effects on local employment and the local infrastructure, although their importance is location specific and their measurement is highly subjective. In short, the consideration of this subset of externalities may confuse policymakers more than it helps them.

PD May 1994. **TI** The Energy Upheavals of the 1970's: Socioeconomic Watershed or Aberration? **AU** Bohi, Douglas R.; Darmstadter, Joel. **AA** Resources for the Future. **SR** Resources for the Future Discussion Paper: 94-32; Resources for the Future, 1616 P Street, N.W., Washington, D.C. 20036. **PG** 44. **PR** $3.00 (prepaid, U.S. funds only). **JE** Q38, H11. **KW** Energy Security. Environmental Policy. Government Intervention.

AB While the energy upheavals of the 1970's do not, in retrospect, symbolize the dramatic break with the past sometimes portrayed, in several respects, that decade did represent a significant benchmark: a sobering lesson on the misplaced confidence in the effectiveness of government intervention; conversely, an appreciation that markets work and that, for the most part, energy transactions do not need to be endowed with attributes wholly different from other goods and services. Among its principal themes, the paper examines perennial arguments for making the United States less energy-dependent; arguments that frequently fail to recognize the inescapable link between domestic and world markets. The last 20 years have given rise to a legitimately heightened concern with the prevailing and long-term environmental impacts of energy. But here too, market-like instruments are increasingly accepted as meeting goals more flexibly and at less cost than strictly regulatory approaches.

Bovenberg, A. Lans

TI Why Is Capital So Immobile Internationally?: Possible Explanations and Implications for Capital Income Taxation. **AU** Gordon, Roger H.; Bovenberg, A. Lans.

TI Why is Capital so Immobile Internationally?: Possible Explanations and Implications for Capital Income Taxation. **AU** Gordon, Roger H.; Bovenberg, A. Lans.

Boyd, James

PD November 1992. **TI** Risk, Liability, and Monopoly. **AA** Resources for the Future. **SR** Resources for the Future, Energy and Natural Resources Division Discussion Paper: ENR93-01; Energy and Natural Resources Division, Resources for the Future, 1616 P Street, NW., Washington, DC 20036. **PG** 23. **PR** $3.00 prepaid (U.S. funds only). **JE** K13, L43. **KW** Liability. Monopoly. Environmental Safety. Insolvency.

AB The paper explores a monopolist's safety and output choices when there are potentially large-scale claims that could lead to firm insolvency. Analysis of a monopolized market yields different conclusions than models of rule choice where perfect competition or simple cost-minimization are assumed. The following are shown to be true when consumers do not internalize expected, uncompensated hazard costs: (1) potential insolvency may improve efficiency and (2), for any level of capitalization, compliance with a negligence rule--where liabilities are removed--may in fact result in less output and safety than under strict liability, where hazard costs are at least partially internalized. When consumers fully discount risks, a negligence rule dominates strict liability because it allows for less costly, credible commitments to profit- and welfare-maximizing safety investments. The analysis demonstrates that safety and output choices--and the optimal legal system--are sensitive to the characteristics of firms' risk reduction technology.

PD November 1992. **TI** Insolvency, Product and Environmental Risk, and Rule Choice: A Market Equilibrium Analysis of Non-Compensatory Damages and Financial Responsibility. **AU** Boyd, James; Ingberman, Daniel E. **AA** Boyd: Resources for the Future. Ingberman: University of Pennsylvania. **SR** Resources for the Future, Energy and Natural Resources Division Discussion Paper: ENR93-02; Energy and Natural Resources Division, Resources for the Future, 1616 P Street, NW., Washington, DC 20036. **PG** 32. **PR** $3.00 prepaid (U.S. funds only). **JE** K13. **KW** Liability. Insolvency. Product Safety.

AB Why, when standard economic analyses suggest the optimality of compensatory damages, are non-compensatory damages so frequently observed in practice? In contrast to standard models, this paper incorporates a generalized description of risk reduction in a model of competitive equilibrium to assess the ability of non-compensatory damages, non-standard liability rules, and capitalization requirements to address inefficiencies associated with potential insolvency. We show: (1) Even when enforcement is perfect, compensatory damages are generally suboptimal under either a strict liability or negligence rule; (2) Under a broad set of conditions, further efficiency gains can be obtained through a "hybrid" rule which combines elements of both strict liability and negligence; and (3) The level of efficiency-enhancing financial responsibility (minimum capitalization requirements) depends on the underlying legal rule. Importantly, the legal rules we prescribe lead to lower capital requirements than those implied by standard models. Further, we derive cost-saving financial responsibility criteria--based on easily observable, balance-sheet data--which lead to compliance with first-best (though ex ante unobservable) care levels.

PD January 1993. **TI** "Relative Liability:" Economic Implications of the State of the Art and Customary Practice Defenses Against Liability. **AU** Boyd, James; Ingberman, Daniel E. **AA** Boyd: Resources for the Future. Ingberman: University of Pennsylvania. **SR** Resources for the Future, Energy and Natural Resources Division Discussion Paper: ENR93-04; Energy and Natural Resources Division, Resources for the Future, 1616 P Street, NW., Washington, DC 20036. **PG** 25. **PR** $3.00 prepaid (U.S. funds only). **JE** K13, D21, D61. **KW** Liability. Product Safety. Hazardous

Products.
AB Liability for injury due to hazardous products or processes often hinges on "relative" determinations of care, where the defendant's safety is compared to that of firms similar to it. For insurance, in many states, firms who show that their product was "state of the art", or whose production process conformed to an industry "custom," can have liabilities removed on that basis. This paper explores the impact of such rules on safety decisions, aggregate consumption, and welfare. When consumers cannot contract on product quality, a state of the art rule results in a market equilibrium with two sets of firms, differentiated by their safety expenditures. Relative to absolute liability, admissibility of the state of the art defense increases average industry safety expenditures. This increases welfare, however, only when absolute liability fails to induce outcomes near the first best--as when there is incomplete judicial enforcement. A customary practice defense generally reduces welfare, relative to absolute liability.

PD January 1993. **TI** Issues and Proposals for Environmental Liability Reform in Central and Eastern Europe. **AA** Resources for the Future. **SR** Resources for the Future, Energy and Natural Resources Division Discussion Paper: ENR93-09; Energy and Natural Resources Division, Resources for the Future, 1616 P Street, NW., Washington, DC 20036. **PG** 32. **PR** $3.00 prepaid (U.S. funds only). **JE** K13, P21. **KW** Liability. Central Europe. Eastern Europe. Environmental Risk.
AB The legacy of severe environmental degradation left by inadequate government attention in Central and Eastern Europe requires liability reform to aid the cleanup of existing pollution sources and create incentives for future environmental risk reduction. The paper analyzes and compares a host of liability approaches to meet these goals and explores the impact of environmental liability rules on privatization and foreign investment. The analysis of market, political, and institutional characteristics specific to the CEE nations, combined with a practical and theoretical understanding of liability systems in the United States and elsewhere, leads to a set of prescriptions and issues that can be used to inform the process of CEE environmental liability reform.

PD May 1993. **TI** Common Law and Market-Based Incentives for Toxic Substances Labeling. **AA** Resources for the Future. **SR** Resources for the Future, Energy and Natural Resources Division Discussion Paper: ENR93-13; Energy and Natural Resources Division, Resources for the Future, 1616 P Street, NW., Washington, DC 20036. **PG** 50. **PR** $3.00 prepaid (U.S. funds only). **JE** K13, Q28. **KW** Liability. Labeling. Product Safety.
AB The paper explores the ability of common law liability rules and market-based incentives to motivate risk-related product labeling and appropriate risk reduction involving toxic substances. An important dimension of the analysis concerns the point in the product lifecycle where risks are generated. For example, are a product's risks generated during consumption, in the workplace, or when the product is disposed of or recycled? In general, lifecycle characteristics largely determine the contractual relationships, liability assignments, and hence incentives for labeling associated with various risks. Also, the question of who bears product risks (e.g., the consumer, or "innocent" third parties) is examined and is found to be an important determinant of incentives. When risks are "externalized" to third parties, market and legal incentives to reduce risk are in general weakened. Finally, one of the principle conclusions of the analysis is that permitting producers, waste handlers, landfillers, and consumers to contract over liabilities and the safety measures that each party devotes to the product lifecycle improves the incentives for labeling provision and the appropriate use and disposal of wastes.

PD January 1994. **TI** The Impact of Uncertain Environmental Liability on Industrial Real Estate Development: Developing a Framework for Analysis. **AU** Boyd, James; Harrington, Winston; Macauley, Molly K.; Calhoon, Mary Elizabeth. **AA** Resources for the Future. **SR** Resources for the Future Discussion Paper: 94-03; Resources for the Future, 1616 P Street, N.W., Washington, D.C. 20036. **PG** 68. **PR** $3.00 (prepaid, U.S. funds only). **JE** K32, Q28, R14. **KW** Superfund. Environmental Liability. Land Use.
AB Does potential environmental liability inhibit commercial development of properties in urban industrial areas (brownfield sites)? Researchers at Resources for the Future recently investigated whether uncertainty about aspects of liability under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) and related law discourages the sale and redevelopment of brownfield sites. They find that such uncertainty--say, the difficulty of predicting the allocation of liability in the event of a site cleanup--could interfere with sales of brownfield property, although to what extent remains unclear. Given high taxes, congestion, and other factors that hinder redevelopment in brownfield areas, CERCLA-related liability may contribute relatively little to inefficiencies in markets for industrial real estate. Even so, the RFF study suggests policy reforms that would minimize distortions due to such liability in these markets.

Brooks, David J.

TI Global Forest Products Trade: The Consequences of Domestic Forest Land-Use Policy. **AU** Sedjo, Roger A.; Wiseman, A. Clark; Brooks, David J.; Lyon, Kenneth S.

TI Changing Timber Supply and the Japanese Market. **AU** Sedjo, Roger A.; Wiseman, A. Clark; Brooks, David J.; Lyon, Kenneth S.

Bulow, Jeremy I.

PD December 1993. **TI** Auctions vs. Negotiations. **AU** Bulow, Jeremy I.; Klemperer, Paul. **AA** Bulow: Stanford University. Klemperer: St. Catherine's College. **SR** Stanford Graduate School of Business Research Paper: 1280; Graduate School of Business, Stanford University, Stanford, CA 94305-5015. **PG** 21. **PR** no charge. **JE** D44, G34. **KW** Auctions. Negotiations. Mergers and Acquisitions. Asset Sales.
AB Which is the more profitable way to sell a company: a public auction or an optimally structured negotiation with a smaller number of bidders? We show that under standard assumptions the public auction is always preferable, even if it forfeits all the seller's negotiating power, including the ability to withdraw the object from sale, provided that it attracts at least one extra bidder. An immediate public auction also dominates negotiating while maintaining the right to hold an auction subsequently with more bidders. The results hold for both the standard independent private values model and a common values model. They suggest that the value of negotiating skill is small relative to the value of additional

competition.

Burtraw, Dallas

TI Accounting for Environmental Costs in Electric Utility Resource Supply Planning. **AU** Freeman, III, A. Myrick; Burtraw, Dallas; Harrington, Winston; Krupnick, Alan J.

PD April 1992. **TI** The Social Costs of Electricity: How Much of the Camel to Let Into the Tent? **AU** Burtraw, Dallas; Krupnick, Alan J. **AA** Resources for the Future. **SR** Resources for the Future, Quality of the Environment Division Discussion Paper: 92-15; Quality of the Environment Division, Resources for the Future, 1616 P Street, NW., Washington, DC 20036. **PG** 23. **PR** $3.00 prepaid (U.S. funds only). **JE** Q28, Q48, L94. **KW** Social Costs. Externalities. Electric Utilities. Internalization.
AB Utility regulators have begun to embrace the idea of internalizing environmental and other externalities into utility investment and operations decisions, particularly in the process of choosing generation technologies for capacity expansion. But, a comprehensive conceptual foundation for the implementation of this idea has not yet been presented. This paper discusses four key issues associated with this idea: (i) problems associated with the limited application of "social costing" to utilities only and in some states only, (ii) difficulties and uncertainties in the measurement of damages (benefits), (iii) the distinction between damage and externality, and (iv) identification of the appropriate strategy for implementation (least-cost planning, social cost dispatch, or social cost pricing).

PD April 1993. **TI** Some Simple Analytics of Social Costing in a Regulated Industry. **AU** Burtraw, Dallas; Harrington, Winston; Freeman, III, A. Myrick; Krupnick, Alan J. **AA** Freeman: Bowdoin College. Burtraw, Harrington, Krupnick: Resources for the Future. **SR** Resources for the Future, Quality of the Environment Division Discussion Paper: 93-13; Quality of the Environment Division, Resources for the Future, 1616 P Street, NW., Washington, DC 20036. **PG** 37. **PR** $3.00 prepaid (U.S. funds only). **JE** L51, L52, D62. **KW** Electric Utilities. Externalities. Social Costing. Adders.
AB "Social costing" refers to the consideration of environmental damages and other external costs and benefits in resource planning or dispatch decisions by electric utilities. Typically, utility regulators must take existing regulations promulgated by other levels of government as parametric, so social costing represents a second layer of regulatory review with regard to many issues. The consideration of external costs at the level of utility regulation will have efficiency implications that are not obvious. For example, the practice is particularly contentious when it is believed that industry emissions of a pollutant are "over-controlled," in that they are subject to an emission limitation more stringent than what would be considered economically efficient. Within a simple but fairly general model, this paper presents some simple analytics for the consideration of social costs in utility decision making, assuming the objective of the regulator is to maximize social welfare. The efficient policy depends on the institutional characteristics of preexisting regulation. The role of deviations from marginal cost pricing in electricity pricing and the possibility of customer bypass of the utility grid are explicitly modeled.

PD June 1993. **TI** Compensation Principles for the Idaho Drawdown Plan. **AU** Burtraw, Dallas; Frederick, Kenneth D. **AA** Resources for the Future. **SR** Resources for the Future, Energy and Natural Resources Division Discussion Paper: ENR93-17; Energy and Natural Resources Division, Resources for the Future, 1616 P Street, NW., Washington, DC 20036. **PG** 49. **PR** $3.00 prepaid (U.S. funds only). **JE** Q25. **KW** Endangered Species. Water Allocation. Compensation Principles.
AB The development, use, and management of the water resources in the Columbia River Basin have decimated the salmon stocks that once thrived in the region. Three species of salmon that spawn in the Snake River in Idaho are now listed as endangered or threatened under the Endangered Species Act (ESA). This paper considers how compensation principles might be used to promote political support, in ways consistent with equity and efficiency goals, for the Idaho drawdown plan. The Idaho plan, one of several strategies proposed to protect and restore Snake River salmon, proposes to drawdown the reservoirs 25 feet or more behind four dams--Lower Granite, Little Goose, Lower Monumental, and Ice Harbor--on the main stem of the lower Snake River for a two-month period to facilitate the downstream migration of the sockeye and the spring/summer chinook smolts. This paper does not evaluate the efficacy or cost effectiveness of the Idaho plan. It is assumed that the drawdown, perhaps in combination with other actions, would provide sufficient protection for the salmon to satisfy the demands of the ESA and the Northwest Power Planning Council's mandate to protect and enhance the basin's fish and wildlife.

PD September 1993. **TI** Bridging the Gap Between State and Federal Social Costing. **AU** Burtraw, Dallas; Krupnick, Alan J. **AA** Resources for the Future. **SR** Resources for the Future, Quality of the Environment Division Discussion Paper: 93-19; Quality of the Environment Division, Resources for the Future, 1616 P Street, NW., Washington, DC 20036. **PG** 34. **PR** $3.00 prepaid (U.S. funds only). **JE** D61, Q21, H23, H71. **KW** Externalities. Social Costing. Federalism. Emissions Fees.
AB Several state public utility commissions (PUC's) are attempting to formally introduce into utility decision making estimates of the external costs of alternative means of generating electricity. In addition, this idea is gaining attention in the debate over alternative transportation fuels and vehicles. This paper looks forward to the appropriate role for the consideration of full social costs at the federal level. Three possible applications are in coordinating the functions of federal agencies and promoting state efforts, use in cost-benefit analysis, and inclusion in public policy directly, such as in the form of emissions fees. This paper investigates the analytical problems and advantages associated with expanding the context of social costing from the state-PUC level to the federal level.

PD September 1993. **TI** The Promise and Prospect for SO2 Emission Trading in Europe. **AA** Resources for the Future. **SR** Resources for the Future, Quality of the Environment Division Discussion Paper: 93-22; Quality of the Environment Division, Resources for the Future, 1616 P Street, NW., Washington, DC 20036. **PG** 29. **PR** $3.00 prepaid (U.S. funds only). **JE** Q28, Q21, Q48, Q41. **KW** Sulfur Dioxide. Emission Trading. Acid Rain. Regulation.
AB This paper is an investigation into the application of international tradable sulfur dioxide emission permits for control of acidification in Europe, with a particular focus on the electric utility industry. The most often cited justification for this form of incentive based environmental regulation is its

potential for achieving environmental goals at less cost than conventional forms of regulation. The promise of cost effectiveness remains compelling but it is significantly undermined by a number of institutional features in the European electricity industry. However, the promise of internalization of social costs in the price of electricity is a more important justification because of its value to the larger agenda of economic unification in the EC, and economic integration and the liberalization of energy markets throughout Europe. This is the only approach that is consistent with the economic objectives that have been set forth in Europe. Some recommendations to improve the performance of emission trading in both these dimensions are offered.

PD September 1993. **TI** "Easy Riding" in the Commodity Provision of Nonexcludable Local Public Goods. **AU** Burtraw, Dallas; Harrington, Winston; Hood, H. Carter. **AA** Resources for the Future. **SR** Resources for the Future, Quality of the Environment Division Discussion Paper: 93-25; Quality of the Environment Division, Resources for the Future, 1616 P Street, NW., Washington, DC 20036. **PG** 30. **PR** \$3.00 prepaid (U.S. funds only). **JE** H41, H72, H73, R52. **KW** Local Public Finance. Fragmentation. Leviathan. Free Riding.

AB One of the classic problems of public finance is the "free rider problem": the insufficient incentive that individual members of a group have to provide goods or services that can be enjoyed by all the members of the group. Nothing prevents this problem from occurring among groups of communities as well as groups of individuals. This notion is formalized in this paper into an "easy riding" hypothesis with regard to the provision of urban parks, which we regard as a local public good producing a number of services that are difficult to deny to the members of other nearby jurisdictions. Metropolitan areas that are fragmented into a larger number of jurisdictions may be expected to spend less on urban recreation. In this paper we report on an empirical test of this hypothesis based on nationwide data culled from various sources. The easy riding hypothesis can be differentiated from and compared to several alternatives. We estimate expenditure among local governments for recreation services and for a set of "excludable" local public goods. The contrasting results between estimated coefficients in the two equations separate the easy riding hypothesis from several others and provide evidence supporting the easy riding hypothesis.

PD February 1994. **TI** Cost-Benefit Analysis and International Environmental Policy Decision Making: Problems of Income Disparity. **AU** Burtraw, Dallas; Kopp, Raymond J. **AA** Resources for the Future. **SR** Resources for the Future Discussion Paper: 94-11; Resources for the Future, 1616 P Street, N.W., Washington, D.C. 20036. **PG** 25. **PR** \$3.00 (prepaid, U.S. funds only). **JE** H41, D63, D71. **KW** Cost-Benefit. Welfare Economics. Social Choice. Public Goods.

AB It is fair to say that many noneconomists believe that welfare economics provides very poor criteria upon which to base public policy decisions. This belief rests upon their general disdain for the most popular tool attributed to welfare economist--narrow cost-benefit analysis. Applying cost-benefit analysis to carbon dioxide control highlights the noneconomists complaints. For example, most in the scientific community agree that global warming, or the lack thereof, will affect populations differentially--should not this distribution of the benefits and costs be considered or should simple summation of utilities suffice? Poor parts of the world living in coastal lands might suffer heavily from sea level rise, but with little or no "dollar votes" to cast on the cost-benefit ballot, their suffering would receive little weight in the decision calculus. Even at very low discount rates, benefits accruing 100 years in the future count little against costs borne today. Should the fact that these benefits accrue to generations 100 years from now diminish their importance in the decision rule vis-a-vis the same benefits accruing to generations say 25 years from now? The purpose of this paper is to explore the ability of a welfare theoretic framework to inform policy decisions when those decisions concern the provision of public goods whose costs and benefits will be distributed across international borders characterized by gross income disparities. The exploration seeks to identify the difficulties one encounters when applying a welfare theoretic framework to the evaluation of these policies and importantly, whether the difficulties one encounters in such applications are due to inadequacies of welfare economics or to unresolved issues lying beyond the boundaries of welfare economics.

Caballero, Ricardo J.

PD June 1994. **TI** On the Timing and Efficiency of Creative Destruction. **AU** Caballero, Ricardo J.; Hammour, Mohamoud L. **AA** Caballero: Massachusetts Institute of Technology and National Bureau of Economic Research. Hammour: Columbia University. **SR** National Bureau of Economic Research Working Paper: 4768; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PG** 36. **PR** \$5.00. **JE** J63, J68. **KW** Employment. Public Policy. Labor Market.

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

Caplin, Andrew

PD June 1994. **TI** Mass Layoffs and Unemployment. **AU** Caplin, Andrew; Leahy, John. **AA** Caplin: Columbia University and National Bureau of Economic Research. Leahy: Harvard University and National Bureau of Economic Research. **SR** National Bureau of Economic Research Working Paper: 4766; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PG** 21. **PR** \$5.00. **JE** J64, J23, D83. **KW** Unemployment. Job Searching. Layoffs.

AB Mass layoffs give rise to groups of unemployed workers who possess similar characteristics and therefore may learn from one another's experience searching for a new job. Two factors lead them to be too selective in the job offers that they accept. The first is an information externality: searchers fail to take into account the value of their experience to others. The second is an incentive to free ride: each worker would like others to experiment and reveal information concerning productive jobs. Together these forces imply that in equilibrium the natural rate of unemployment is too high.

Card, David

PD May 1994. **TI** Earnings, Schooling, and Ability Revisited. **AA** Princeton University. **SR** Princeton Industrial Relations Section Working Paper: 331; Industrial Relations Section, Department of Economics, Princeton University, Princeton, NJ 08544-2098. **PG** 46. **PR** $1.50. **JE** J21, I21, C31. **KW** Returns to Education. Ability Bias.

AB This paper presents a survey and interpretation of recent research on the return to education. The empirical findings in a series of current papers suggest that the causal effect of education on earnings is understated by standard estimation methods. Using a simple model of optimal schooling developed by Gary Becker (1967), I derive an explicit formula for the conventional estimate of the return to schooling and for alternative instrumental variables and fixed-effects estimators. The analysis suggests that instrumental variables estimates based on "interventions" that affect the schooling choices of children from relatively disadvantaged family backgrounds will tend to exceed the corresponding OLS estimates.

PD May 1994. **TI** Changing Wage Structure and Black-White Wage Differentials Among Men and Women: A Longitudinal Analysis. **AU** Card, David; Lemieux, Thomas. **AA** Card: Princeton University and National Bureau of Economic Research. Lemieux: Universite de Montreal and National Bureau of Economic Research. **SR** National Bureau of Economic Research Working Paper: 4755; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PG** 13. **PR** $5.00. **JE** J15, J31, J71. **KW** Wage Discrimination. Labor Productivity.

AB Despite several decades of research there is still widespread disagreement over the interpretation of the wage differences between black and white workers. Do the differences reflect productivity differences, discrimination, or both? If lower black earnings reflect a productivity difference, then an economy-wide increase in the relative wages of more highly-skilled workers should lead to a parallel increase in the black-white earnings gap. We evaluate this hypothesis using longitudinal data for men and women from the Panel Study of Income Dynamics. Our findings suggest that returns to observed and unobserved skills of male workers rose by 5-10 percent between 1979 and 1985. For female workers, the return to observed skills was relatively constant while the return to unobserved skills increased by 15 percent. The evidence that black-white wage differentials rise with the return to skill is mixed. Among female workers the black-white wage differentials rise with the return to skill is mixed. Among female workers the black-white wage gap widened in the early 1980's--consistent with the premise that racial wage differences reflect a productivity difference. For men in our sample the black-white wage gap declined between 1979 and 1985--a change that is inconsistent with the rise in the return for skills.

Carrington, William J.

PD July 1994. **TI** Equilibrium Migration With Endogenous Moving Costs. **AU** Carrington, William J.; Detragiache, Enrica; Vishwanath, Tara. **AA** Johns Hopkins University. **SR** Johns Hopkins Department of Economics Working Paper: 331; Department of Economics, Johns Hopkins University, Baltimore, Maryland 21218. **PG** 36. **PR** no charge. **JE** J61, O41. **KW** Migration. Economic Growth. Labor.

AB We study a dynamic model of labor migration in which moving costs decrease with the number of migrants already settled in the destination. This assumption is supported by sociological studies of migrant networks. With endogenous moving costs migration occurs gradually over time. Once it starts, it develops momentum, and migratory flows may increase even as wage differentials narrow. In addition, migration tends to follow geographical channels, and low-moving cost individuals migrate first. These patterns are consistent with historical evidence from the Great Black Migration of 1916-1930, which cannot be reconciled with existing migration models.

Carson, Richard T.

TI Choice of Thresholds for Efficient Binary Discrete Choice Estimation. **AU** Alberini, Anna; Carson, Richard T.

PD March 1994. **TI** Contingent Valuation and Lost Passive Use: Damages From the Exxon Valdez. **AU** Carson, Richard T.; Mitchell, Robert C.; Hanemann, W. Michael; Kopp, Raymond J.; Presser, Stanley; Ruud, Paul A. **AA** Carson: University of California, San Diego. Mitchell: Clark University. Hanemann and Ruud: University of California, Berkeley. Kopp: Resources for the Future. Presser: University of Maryland. **SR** Resources for the Future Discussion Paper: 94-18; Resources for the Future, 1616 P Street, N.W., Washington, D.C. 20036. **PG** 56. **PR** $3.00 (prepaid, U.S. funds only). **JE** D61, K32, Q28. **KW** Contingent Valuation. Natural Resource Damages. Nonuse Value. Existence Value.

AB Contingent valuation is a well-known and widely used technique that combines economic theory and survey research to estimate the economic value individuals or households place on various goods, services, or public programs. Its most widespread application has been to the valuation of public goods, where it has been used to quantify the benefits provided by such environmental programs as specie protection, wilderness preservation, and the clean air and water acts. This paper describes the design, execution, and results of a contingent valuation survey intended to measure the value of lost passive use (nonuse value) brought about by the Exxon Valdez oil spill. The study was sponsored by the State of Alaska as part of its natural resource damage assessment following the spill.

TI Random-Effect Models of Willingness to Pay Using Discrete Response CV Survey Data. **AU** Alberini, Anna; Kanninen, Barbara J.; Carson, Richard T.

Cason, Timothy N.

PD May 1993. **TI** Cheap Talk Price Signaling in Laboratory Posted Offer Markets. **AA** University of Southern California. **SR** University of Southern California Arthur Andersen Working Paper Series: 9315; Department of Economics, University of Southern California, University Park, Los Angeles, CA 90089-0253. **PG** 15. **PR** no charge. **JE** L41, D43. **KW** Oligopoly. Communication. Collusion. Experiments. Signaling. Airlines.

AB Technological advances have increased the market information available in many industries, and this information has the potential to change firm conduct. Advance price notification is one example that has recently attracted antitrust attention. The major U.S. Airlines are currently under Justice Department investigation for anticompetitive price fixing through the shared electronic Airline Tariff Publishing (ATP) system. This system may facilitate collusion by allowing airlines to signal pricing intentions to their rivals and to build consensus on fare actions. The airlines typically post fare proposals through the ATP system before they are available for consumer purchase, so the price proposals are non-binding "cheap talk" between rivals. Because of the repeated interaction among firms in this industry, there exist theoretical equilibria in which non-binding price signals can influence market outcomes, as well as equilibria in which signals do not affect behavior. This paper uses laboratory posted offer markets to investigate the potential market impact of non-binding price signals. The experiment implements two different types of price signals in two different supply and demand environments. Sellers frequently use signals given the opportunity, and these signaling opportunities increase prices and seller profits in some circumstances. However, the signals tend to lose their impact after several periods, which suggests that price signaling does not lead to new behavioral equilibria.

TI An Experiment in Voluntary Environmental Regulation: Participation in EPA's 33/50 Program. **AU** Arora, Seema; Cason, Timothy N.

Chan, K.C

PD May 1994. **TI** Information, Trading and Stock Returns: Lessons From Dually-Listed Securities. **AU** Chan, K.C.; Stulz, Rene M.; Fong, Wai-Ming. **AA** Chan: Hong Kong University of Science and Technology. Stulz: Ohio State University and National Bureau of Economic Research. Fong: Chinese University of Hong Kong. **SR** National Bureau of Economic Research Working Paper: 4743; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PG** 21. **PR** $5.00. **JE** G12, G14, G15. **KW** Stock Returns. Volatility. Bid-Ask Spread. Volume.

AB This paper compares the intra-day patterns on the NYSE and AMEX of volatility, trading volume, and bid-ask spreads for European dually-listed stocks, Japanese dually-listed stocks also listed in London, and Japanese dually-listed stocks not listed in London, with American stocks of comparable average trading volume and volatility. It is shown that the intra-day patterns for these stocks are remarkably similar even though the public information flows differ markedly across these stocks during the trading day. In the morning, Japanese stocks have the greatest volatility and volume, followed by European stocks and American stocks. These rankings are reversed in the afternoon. We argue that these patterns are consistent with markets reacting to the overnight accumulation of public information which is greatest for Japanese stock and smallest for American stocks and inconsistent with the view that early morning volatility can be attributed to monopolistic specialist behavior.

Chang, Howard F.

TI An Analysis of Fee-Shifting Based on the Margin of Victory: On Frivolous Suits, Meritorious Suits, and the Role of Rule 11. **AU** Bebchuk, Lucian Arye; Chang, Howard F.

Christiano, Lawrence J.

PD April 1994. **TI** The Effects of Monetary Policy Shocks: Some Evidence From the Flow of Funds. **AU** Christiano, Lawrence J.; Eichenbaum, Martin; Evans, Charles. **AA** Christiano and Eichenbaum: Northwestern University and National Bureau of Economic Research. Evans: Federal Reserve Bank of Chicago. **SR** National Bureau of Economic Research Working Paper: 4699; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PG** 22. **PR** $5.00. **JE** E32, E52, E13. **KW** Business Cycle. Monetary Policy. Flow of Funds.

AB This paper uses the Flow of Funds accounts to assess the impact of a monetary policy shock on the borrowing and lending activities of different sectors of the economy. Our measures of contractionary monetary policy shocks have the following properties: (i) they are associated with a fall in nonborrowed reserves, total reserves, M1, the Federal Reserves' holdings of government securities and a rise in the federal funds rate, (ii) they lead to persistent declines in real GNP, employment, retail sales and nonfinancial corporate profits as well as increases in unemployment and manufacturing inventories, (iii) they generate sharp, persistent declines in commodity prices and (iv) the GDP price deflator does not respond to them for roughly a year. After that the GDP price deflator declines. Our major findings regarding the borrowing activities of different sectors can be summarized as follows. First, following a contractionary shock to monetary policy, net funds raised by the business sector increases for roughly a year. Thereafter, as the recession induced by the policy shock gains momentum, net funds raised by the business sector begins to fall. This pattern is not captured by existing monetary business cycle models. Second, we cannot reject the view that households do not adjust their financial assets and liabilities for several quarters after a monetary shock. This is consistent with a key assumption of several recent monetary business cycle models.

PD August 1994. **TI** Small Sample Properties of GMM for Business Cycle Analysis. **AU** Christiano, Lawrence J.; Den Haan, Wouter. **AA** Christiano: Northwestern University. Den Haan: University of California, San Diego. **SR** University of California, San Diego, Department of Economics Working Paper: 94-17; Working Paper Coordinator, Economics Department, 0508, University of California, 9500 Gilman Drive, La Jolla, CA 92093-0508. **PG** 36. **PR** $3.00 U.S.; $4.00 Foreign; payable to Regents, University of California. **JE** C13, C15, E32. **KW** GMM. Monte Carlo. Business Cycle. Statistics.

AB We investigate, by Monte Carlo methods, the small sample accuracy of formulas for computing asymptotically valid confidence intervals for various statistics analyzed in the business cycle literature. The statistics we study include the second moment properties of data filtered using the Hodrick-Prescott filter. In addition, we study statistics for evaluating model fit that were proposed in Christiano and Eichenbaum (1992). There are in fact numerous Generalized Method of Moment strategies for doing inference about the statistics that interest us. The strategies vary according to how they go about estimating a certain spectral density at frequency zero. In particular, they differ according to the choice of kernel, the bandwidth parameter, and order of prewhitening. We investigate the impact of these choices on inference in small samples.

Chu, Chia-Shang James

PD September 1992. **TI** MOSUM Tests for Parameter Constancy. **AU** Chu, Chia-Shang James; Hornik, Kurt; Kuan, Chung-Ming. **AA** Chu: University of Southern California. Hornik: Technische Universitat Wien. Kuan: University of Illinois, Urbana-Champaign. **SR** University of Southern California Arthur Andersen Working Paper Series: 9319; Department of Economics, University of Southern California, University Park, Los Angeles, CA 90089-0253. **PG** 29. **PR** no charge. **JE** C13, C51. **KW** Residuals. Brownian Bridge. Wiener Process. Structural Change.

AB In this paper, the MOSUM tests with recursive and OLS residuals are considered, and their asymptotic null distributions are characterized analytically. We show that the limiting processes of moving sums of recursive residuals is the increments of a standard Wiener process. For a particular choice of the size of moving sums, a formula representing the probability of this limiting process crossing constant boundaries is derived, from which correct asymptotic critical values are calculated and tabulated. We also show that the limiting process of moving sums of OLS residuals is the increments of a Brownian bridge whose boundary-crossing probability is known in the literature. We then prove that the MOSUM tests are consistent and have non-trivial local power under a general class of alternatives. Our simulation further indicates that the proposed MOSUM tests can complement other CUSUM-type tests when there is a single structural change and have a power advantage when there are certain double structural changes.

PD May 1993. **TI** Detecting Parameter Shift in Generalized Autoregressive Conditional Heteroskedasticity Models. **AA** University of Southern California. **SR** University of Southern California Arthur Andersen Working Paper Series: 9318; Department of Economics, University of Southern California, University Park, Los Angeles, CA 90089-0253. **PG** 25. **PR** no charge. **JE** C49, G12. **KW** Structural Change. Lagrange Multiplier Test. GARCH. Fluctuation Test.

AB This paper applies recent theories of testing for parameter instability to the conditional variance parameters in a generalized autoregressive conditional heteroskedasticity model. Two suggested test procedures for a possibly misspecified conditional variance model are the Lagrange multiplier test and the fluctuation test. The asymptotic null distribution of the test statistics are derived from the weak convergence of the scores, and the critical values from the hitting probability of the squared Bessel process and of the Brownian bridge. We simulate the finite sample power of LM tests and apply LM tests to three stock indices, valued-weighted NYSE, S&P 500, and NASDAQ, and find that the hypothesis of stable conditional variance parameters can be rejected.

Cochrane, John H.

PD April 1994. **TI** Shocks. **AA** University of Chicago and National Bureau of Economic Research. **SR** National Bureau of Economic Research Working Paper: 4698; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PG** 51. **PR** $5.00. **JE** E32, E31. **KW** Economic Fluctuations. Shocks. Money. Technology.

AB What are the shocks that drive economic fluctuations? I examine technology and money shocks in some detail, and briefly review the evidence on oil price and credit shocks. I conclude that none of these popular candidates accounts for the bulk of economic fluctuations. I then examine whether "consumption shocks," news that agents see but we do not, can account for fluctuations. I find that it may be possible to construct models with this feature, though it is more difficult than is commonly realized. If this view is correct, we will forever remain ignorant of the fundamental causes of economic fluctuations.

Cofala, Janusz

TI Alternative Standards and Instruments for Air Pollution Control in Poland. **AU** Toman, Michael; Cofala, Janusz; Bates, Robin.

Collins, Carol T.

TI Global Warming and Urban Smog: The Cost Effectiveness of CAFE Standards and Alternative Fuels. **AU** Krupnick, Alan J.; Walls, Margaret A.; Collins, Carol T.

Constantine, Jill M.

PD May 1994. **TI** Training and the Growth of Wage Inequality. **AU** Constantine, Jill M.; Neumark, David. **AA** Constantine: University of Pennsylvania. Neumark: University of Pennsylvania and National Bureau of Economic Research. **SR** National Bureau of Economic Research Working Paper: 4729; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PG** 22. **PR** $5.00. **JE** J31, J24. **KW** Wage Inequality. Schooling. Education.

AB Shifts in the incidence of various types of training over the 1980's favored more-educated, more-experienced workers. Coupled with the fact that this training is associated with higher wages, these shifts suggest that training may have contributed to the growth of wage inequality in this period. However, the shifts were apparently too small, or the returns to training too low, for training to have played a substantial role in this increase. The estimated changes in wage differentials associated with schooling and experience are at best only slightly smaller once we account for changes in the distribution of training across schooling and experience groups, as well as changes in the returns to training and in the length of training programs.

Corstjens, Judy

TI Shelf Space Allocation for Store Brands. **AU** Corstjens, Marcel; Lal, Rajiv; Corstjens, Judy.

Corstjens, Marcel

PD May 1994. **TI** Shelf Space Allocation for Store Brands. **AU** Corstjens, Marcel; Lal, Rajiv; Corstjens, Judy. **AA** Corstjens, M.: INSEAD. Lal: Stanford University. Corstjens, J.: Arrow Consultant. **SR** Stanford Graduate School of Business Research Paper: 1305; Graduate School of Business, Stanford University, Stanford, CA 94305-5015. **PG** 35. **PR** no charge. **JE** D21, L15, L23, M31. **KW** Shelf Space Allocation. Store Brands. Store Differentiation.

AB This paper studies the shelf space allocation decision for a store brand. We argue that since the store brand can play a unique role in the overall strategy of the retailer, traditional arguments for shelf space allocation decisions may not be sufficient. In particular, we show that since store brands can be used to create a unique position for the retailer and develop store loyalty, store brands must get more shelf space as compared to that based on models like SH.A.R.P. (Bultez and Naert 1989). Our analysis also explains the differences between

U.S. and European retailers with respect to their treatment of store brands. While several very successful retailers in the U.K. (e.g., Sainsbury) offer relatively more shelf space to their store brands, retailers in the U.S. provide relatively little shelf space to their store brands. Our explanation of the above phenomenon lies in the differences in the objectives of a retailer for its store brand. Moreover, we show that the quality of the store brand is critical to achieving these objectives and we thereby provide a better understanding of the difficulties in changing the role of the store brand in a retailer's positioning strategy.

Costello, Donna M.

TI Are Labor Shares Really Constant? An International Study of the Cyclical Behavior of Labor Shares. **AU** Praschnik, J.; Costello, Donna M.

Courant, Paul N.

TI Congestion and Taxation in Lumpy Countries. **AU** Hummels, David L; Courant, Paul N.; Deardorff, Alan V.

Cummins, Jason G.

PD April 1994. **TI** The Tax Sensitivity of Foreign Direct Investment: Evidence From Firm-Level Panel Data. **AU** Cummins, Jason G.; Hubbard, R. Glenn. **AA** Cummins: Columbia University. Hubbard: Columbia University and National Bureau of Economic Research. **SR** National Bureau of Economic Research Working Paper: 4703; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PG** 25. **PR** $5.00. **JE** F21, F23, H25. **KW** Foreign Direct Investment. Tax Incentives. International Capital Flows.

AB Understanding the determinants of foreign direct investment (FDI) is important for analyzing capital flows and the industrial organization of multinational firms. Most empirical studies of FDI, however, have focused on case studies of non-tax factors in overseas investment decisions or on discerning reduced-form relationships between some measure of FDI and variables relating to non-tax and tax aspects of the investment decision. In this paper, we examine the effects of taxation on FDI using previously unexplored (for this purpose) panel data on FDI by subsidiaries of U.S. multinational firms collected by Compustat's geographic segment file project. These firm-level data contain information on new capital investment overseas which enable us to measure tax influences on FDI more precisely and allow us to focus on structural models of subsidiaries' investment decisions. Our empirical results cast significant doubt on the simplest notion that "taxes don't matter" for U.S. firms' FDI decisions. Tax parameters influence FDI in precisely the ways indicated by neoclassical models. Our results also lend support to the application of the "tax capitalization" model to the study of dividend repatriation and foreign direct investment decisions.

Darmstadter, Joel

TI The Energy Upheavals of the 1970's: Socioeconomic Watershed or Aberration? **AU** Bohi, Douglas R.; Darmstadter, Joel.

Davidson, Bruce

TI Information and the Demand for Supplemental Medicare Insurance. **AU** Gertler, Paul J.; Sturm, Roland; Davidson, Bruce.

Davis, Steven J.

TI Relative Wage Movements and the Distribution of Consumption. **AU** Attanasio, Orazio P.; Davis, Steven J.

Day, Richard H.

PD October 1993. **TI** A Dynamic Analysis of Chinese Enterprise Behavior Under Alternative Reform Regimes: A Feasibility Study. **AU** Day, Richard H.; Wang, Zhigang; Zou, Gang. **AA** University of Southern California. **SR** University of Southern California Arthur Andersen Working Paper Series: 9322; Department of Economics, University of Southern California, University Park, Los Angeles, CA 90089-0253. **PG** 38. **PR** no charge. **JE** D23, L61, O12, O32. **KW** Industrial Dynamics. Economic Transition. Chinese Economic Reform.

AB An adaptive economizing model of production, investment, and technological change is used to simulate growth in a stylized Chinese industry based on the iron and steel sector. Model generated projections from 1990 to 2000 are made for each total output, output by each of three technologies (high, low, and hybrid), labor productivity, and capital productivity under each of three policy regimes. The latter range of policies include a "base" regime in line with the past decade of reform, a "moderate" regime that is more market oriented, and a "liberal" regime that allows for a much accelerated shift to "free market" competition.

De Arcangelis, Giuseppe

PD September 1993. **TI** The Influence of Real and Nominal Shocks on the Exchange Rates. **AA** University of Rome and University of Michigan. **SR** University of Michigan Research Forum on International Economics Discussion Paper: 347; Professor Robert M. Stern, Institute of Public Policy Studies, University of Michigan, 440 Lorch Hall, Ann Arbor, MI 48109-1220. **PG** 31. **PR** $4 (U.S. Funds) for shipping and handling (checks should be payable to: IPPS. Enclose with order). **JE** C32, E23, F31. **KW** Foreign Exchange. VAR Model. Productivity Shocks.

AB The dynamic behavior or real and nominal exchange rates is studied in a structural VAR model with long-run zero restrictions. In particular, long-run neutrality of nominal shocks and additional constraints imposed by means of a Ricardian model allow us to identify the short-run impact of two productivity shocks (in the traded and nontraded sectors) and a nominal shock. The model is estimated and simulated for four major countries. There is strong evidence for a large impact of the productivity shocks for both real and nominal exchange rates in the short run. Nominal shocks are particularly important for the German-U.S. relationship. Finally, the model suggests an interpretation of the causes of the high dollar in the 80's: except for the years 82-83, real innovations seem to be more important than nominal ones.

De Bondt, Werner F. M.

PD June 1994. **TI** Financial Decision-Making in Markets and Firms: A Behavioral Perspective. **AU** De Bondt, Werner F. M.; Thaler, Richard H. **AA** De Bondt: University of Wisconsin-Madison. Thaler: Cornell University and National Bureau of Economic Research. **SR** National Bureau of Economic Research Working Paper: 4777; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PG** 24. **PR** $5.00. **JE** G14, G31, D81, D84. **KW** Behavioral Finance. Rational Expectations.

Decision Making.
AB In its attempt to model financial markets and the behavior of firms, modern finance theory starts from a set of normatively appealing axioms about individual behavior. Specifically, people are said to be risk-averse expected utility maximizers and unbiased Bayesian forecasters (i.e., agents make rational choices based on rational expectations). The rational paradigm may be criticized, however, because (1) the assumptions are descriptively false and incomplete, and (2) the theory often lacks predictive power. One way to make progress is to characterize actual decision-making behavior. Efforts along these lines are made by behavioral economists and psychologists. This paper provides a selective review of recent work in behavioral finance. First, we ask why economists should be concerned with the psychology of decision-making. Next, we discuss a series of key behavioral concepts (e.g., people's well-known tendencies to give too much weight to vivid information and to show excessive self-confidence). The body of the paper illustrates the relevance of these concepts to important topics in investment theory and corporate finance. In each case, behavioral finance offers a new perspective on results that are anomalous within the standard approach.

Deacon, Robert T.

PD March 1994. **TI** Deforestation and the Rule of Law in a Cross-Section of Countries. **AA** University of California, Santa Barbara. **SR** Resources for the Future Discussion Paper: 94-23; Resources for the Future, 1616 P Street, N.W., Washington, D.C. 20036. **PG** 22. **PR** $3.00 (prepaid, U.S. funds only). **JE** Q22, O13. **KW** Deforestation. Property Rights.
AB Cross-sectional data from 120 is used to test for relationships between deforestation and three possible causes: population pressure, growth in income, and insecure property rights as reflected in legal and political attributes of countries. While models of the deforestation processes are suggested, the primary intent is to present descriptive empirical results. Insecure property rights are hypothesized to arise from two sources: government instability or inability to enforce ownership consistently, and an absence of popular representation and accountability in the form of government. The former source is captured by measures of general lawlessness such as guerrilla warfare, armed revolt, and rapid changes in laws or constitutions. The latter is proxied by variables indicating the type of government executive (military, elected, monarch), frequency of political purges, and the existence of an elected legislature. The results obtained indicate broad support for the property rights hypothesis and for the effects of population growth. It is clear, however, that additional factors remain to be determined.

PD August 1994. **TI** The Structure of an Environmental Transaction: The Debt-for-Nature Swap. **AU** Deacon, Robert T.; Murphy, Paul. **AA** University of California, Santa Barbara. **SR** Resources for the Future Discussion Paper: 94-40; Resources for the Future, 1616 P Street, N.W., Washington, D.C. 20036. **PG** 37. **PR** $6.00. **JE** Q23, K32. **KW** Debt-for-Nature Swap. Resource Conservation. Environmental Protection.
AB The structure of debt-for-nature swaps and the perceived benefits to participants are examined empirically. The contacts executing debt-for-nature swaps are studied to assess the role of transaction costs in determining how these agreements are structured. The emerging contract form is a product of weak enforcement of legal claims to environmental resources in some developing countries, high costs for delineating and monitoring environmental outcomes, and nominal government ownership of the resources involved. A cross-country econometric study relates the occurrence of swaps in individual countries to observed attributes of potential participants. It identifies environmental, political, and other attributes of countries that influence the likelihood of these exchanges.

PD August 1994. **TI** Deforestation, Investment and Political Stability. **AA** University of California, Santa Barbara. **SR** Resources for the Future Discussion Paper: 94-45; Resources for the Future, 1616 P Street, N.W., Washington, D.C. 20036. **PG** 27. **PR** $6.00. **JE** Q21, Q28. **KW** Conservation. Political Risk. Investment Incentives.
AB The role of political instability and insecurity regarding the future return from investment and conservation actions is examined, with emphasis on the consequences of insecurity for the conservation of forests. The data for this examination come from two very different sources. This first is historical accounts of human history and the use of forests during the last three thousand years, particularly in the Mediterranean region. The second is a data base that allows statistical analysis of deforestation rates, investment rates, and political attributes of over 100 countries. Overall, the evidence examined supports the hypothesis that volatile political institutions and repressive governments impair incentives to invest and are sources of environmental degradation.

Deardorff, Alan V.

TI Congestion and Taxation in Lumpy Countries. **AU** Hummels, David L; Courant, Paul N.; Deardorff, Alan V.

PD April 1994. **TI** Effects of Trade Liberalization on the Members of a Common Market: A Lumpy Country Analysis. **AA** University of Michigan. **SR** University of Michigan Research Forum on International Economics Discussion Paper: 354; Professor Robert M. Stern, Institute of Public Policy Studies, University of Michigan, 440 Lorch Hall, Ann Arbor, MI 48109-1220. **PG** 32. **PR** $4 (U.S. Funds) for shipping and handling (checks should be payable to: IPPS. Enclose with order). **JE** F13, F15. **KW** Trade Liberalization. Common Market.
AB The paper models a two-country common market as a lumpy country: the countries share identical, constant-returns-to-scale technologies, but other differences between countries prevent them from producing all goods with the same techniques. The paper examines cases in which they differ exogenously in their factor endowments and in which factor endowment differences arise endogenously, either because workers migrate seeking the higher level of amenities that is available in one of the countries, or because one of the countries provides a production subsidy to one of the industries, identified as agriculture. The model is used to explore the effects of both trade liberalization--which alters domestic relative prices--and a reduction in the agricultural subsidy. Results are derived for the effects of these policy changes on real factor prices in the two countries and on the movement of labor between the countries when it is allowed to move. Most of these effects depend critically on the initial patterns of specialization and hence on the initial allocation of factors across the countries.

PD May 1994. **TI** Market Access in the Uruguay Round and Beyond; Comment on Deardorff; Strengthened Dispute

Settlement Procedures in the Uruguay Round. **AU** Deardorff, Alan V.; Stern, Robert M.; Jackson, John. **AA** University of Michigan. **SR** University of Michigan Research Forum on International Economics Discussion Paper: 360; Professor Robert M. Stern, Institute of Public Policy Studies, University of Michigan, 440 Lorch Hall, Ann Arbor, MI 48109-1220. **PG** 36. **PR** $4 (U.S. Funds) for shipping and handling (checks should be payable to: IPPS. Enclose with order). **JE** F13. **KW** Tariffs. Uruguay Round.

AB The Uruguay Round included a number of remarkable achievements, among them reductions of tariffs, elimination of voluntary export restraints (VER's), and a move toward free trade in services. This paper, while commending these and other achievements of the Round, argues among other things that each of these achievements needs to be, in various ways, reversed in future negotiations: 1) There should be more tariffs, not fewer, for reasons that have already been recognized in the several calls for tariffication of nontariff barriers in the Round. 2) There should be greater use, not less, of something like VER's in the particular area of safeguard protection, in order to provide a tool that will compensate foreign producers while achieving greater certainty of safeguards protection than is possible with tariffs. 3) There should be the use of something like tariffs, not free trade, as the immediate objective of negotiations in services, in order to bring more service sectors into the discipline of the new World Trade Organization and to facilitate future negotiations.

Dekle, Robert

PD June 1994. **TI** Agglomeration and the Price of Land: Evidence From the Prefectures. **AU** Dekle, Robert; Eaton, Jonathan. **AA** Dekle: Boston University. Eaton: Boston University and National Bureau of Economic Research. **SR** National Bureau of Economic Research Working Paper: 4781; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PG** 22. **PR** $5.00. **JE** L11, L60, G21. **KW** Agglomeration Effects. Manufacturing. Finance.

AB We use Japanese prefectural wage and land price data to estimate the magnitude of agglomeration effects in manufacturing and finance. We also examine the range of agglomeration effects by estimating the extent to which they diminish with distance, using a specification that encompasses the polar cases of purely local agglomeration economies, on the one hand, and national increasing returns to scale, on the other. We find that agglomeration effects are slightly stronger in financial services than in manufacturing, and that they diminish substantially with distance in either sector. Our estimates indicate that agglomeration effects can explain about 5.6 percent of the growth in Japanese output per worker in manufacturing and about 8.9 percent of the growth in output per worker in financial services during 1976-1988. Our estimates imply that, while the average elasticity of productivity with respect to agglomeration is between 10 and 15 percent, agglomeration economies in the largest prefectures are nearly exhausted.

Den Haan, Wouter

TI Small Sample Properties of GMM for Business Cycle Analysis. **AU** Christiano, Lawrence J.; Den Haan, Wouter.

Detragiache, Enrica

TI Equilibrium Migration With Endogenous Moving Costs. **AU** Carrington, William J.; Detragiache, Enrica; Vishwanath, Tara.

Dickens, Richard

PD May 1994. **TI** The Effects of Minimum Wages on Employment: Theory and Evidence From the U.K. **AU** Dickens, Richard; Manning, Alan; Machin, Stephen. **AA** Dickens and Manning: London School of Economics. Machin: University College London and Harvard University. **SR** National Bureau of Economic Research Working Paper: 4742; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PG** 28. **PR** $5.00. **JE** J23, J31, J38. **KW** Minimum Wage. Employment.

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

Dickson, Joel M.

PD April 1994. **TI** A Stock Index Mutual Fund Without Net Capital Gains Realizations. **AU** Dickson, Joel M.; Shoven, John B. **AA** Dickson: Stanford University. Shoven: Stanford University and National Bureau of Economic Research. **SR** National Bureau of Economic Research Working Paper: 4717; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PG** 25. **PR** $5.00. **JE** G11, G18, G24, H24. **KW** Mutual Funds. Capital Gains. Tax Deferment.

AB This paper reconsiders the literature on tax options by examining the ability to defer net capital gains realizations within an equity portfolio whose constituents change over time. Unlike previous studies on the value of tax options, this paper examines after-tax returns to shareholders within an equity mutual fund. The mutual fund context allows certain features of the United States' tax laws--namely, wash-sale rules and the offsetting of short-term and long-term capital gains and losses--to be incorporated in assessing the potential improvement in post-tax returns to investors engaging in tax minimization strategies. Specifically, this paper examines the feasibility of managing open-end and closed-end Standard and Poor's 500 index funds which defer net capital gains realizations. A combination of HIFO (highest in, first out) accounting procedures and the systematic booking of significant losses in portfolio constituents would have allowed the open-end fund variant to match the annual pre-tax return of Vanguard's Index 500 Fund while improving annual after-tax performance by as much as ninety-seven basis points through the elimination of all capital gains realizations between 1977 and 1991. Deferring capital gains is shown to be easier for open-end funds relative to closed-end funds while the additional turnover required to implement these strategies is quite modest. The authors name the tax-sensitive funds in this paper "SURGE (Strategies Using Realized Gains Elimination) funds.".

Disney, Richard

PD May 1994. **TI** British Unions in Decline: An Examination of the 1980's Fall in Trade Union Recognition. **AU** Disney, Richard; Machin, Stephen; Gosling, Amanda. **AA** Disney: University of Kent. Machin: London School of Economics, Harvard University, and National Bureau of Economic Research. Gosling: Institute for Fiscal Studies, London. **SR** National Bureau of Economic Research Working Paper: 4733; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PG** 18. **PR** $5.00. **JE** J51, J53. **KW** Trade Unions. Collective Bargaining. Unionization.

AB The authors analyze establishment-level data from the three Workplace Industrial Relations Surveys of 1980, 1984, and 1990 to document and explain the sharp decline in unionization that occurred in Britain over the 1980's. Between 1980 and 1990 the proportion of British establishments which recognized manual or non-manual trade unions for collective bargaining over pay and conditions fell by almost 20 percent (from 0.67 to 0.54). The evidence reported demonstrates the importance of the interaction between the labor market, the product market, employer behavior and the legislative framework in determining union recognition status in new establishments. The sharp fall in trade union recognition appears to be largely driven by a failure to achieve recognition status in establishments set up in the 1980's. These results, when taken in conjunction with recent changes in the nature of employment in the British labor market, seem to paint a bleak picture for unions and there appears to be no reason why the decline in union activity should not continue into the 1990's.

Dixon, Peter B.

TI Water Pricing and Investment in Melbourne: General Equilibrium Analysis With Uncertain Streamflow. **AU** Horridge, J. Mark; Dixon, Peter B.; Rimmer, Maureen T.

PD December 1993. **TI** Applied General Equilibrium Modelling: Achievement, Failure and Potential. **AA** Monash University. **SR** Centre of Policy Studies and the Impact Project Working Paper: G-106; Centre of Policy Studies and the Impact Project, Monash University, Clayton, Victoria, Australia 3168. **PG** 8. **PR** not available. **JE** D58, D63. **KW** General Equilibrium. Welfare. Forecasting.

AB Over the last twenty years, applied general equilibrium models (AGEM's) have provided useful insights on the likely effects of disturbances in one part of the economy on activity in other parts (e.g. the effects of changes in manufacturing protection on exports of mineral products). On the other hand, AGEM-based analyses of the welfare effects of proposed policy changes have been unconvincing. Also, forecasts derived from AGE models have not provided satisfactory guidance to people concerned with investment and other business decisions. This paper explains these views and discusses the research required to move AGE modeling closer to its full potential.

Dooley, Michael P.

PD July 1994. **TI** Recent Private Capital Inflows to Developing Countries: Is the Debt Crisis History? **AU** Dooley, Michael P.; Kletzer, Kenneth M.; Fernandez-Arias, Eduardo. **AA** Dooley: University of California, Santa Cruz and National Bureau of Economic Research. Kletzer: University of California, Santa Cruz. Fernandez-Arias: The World Bank. **SR** National Bureau of Economic Research Working Paper: 4792; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PG** 24. **PR** $5.00. **JE** F34, F31. **KW** Capital Markets. International Financing. Debtor Countries.

AB This empirical study finds that while debt reduction and policy reforms in.

PD July 1994. **TI** Capital Flight, External Debt and Domestic Policies. **AU** Dooley, Michael P.; Kletzer, Kenneth M. **AA** Dooley: University of California, Santa Cruz and National Bureau of Economic Research. Kletzer: University of California, Santa Cruz. **SR** National Bureau of Economic Research Working Paper: 4793; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PG** 28. **PR** $5.00. **JE** F31, F32. **KW** Capital Flows. International Investment. Developing Countries.

AB It is now well documented that capital flight has been a dominant feature of capital movements between developing and industrial countries. Since 1988 reductions in the stock of flight capital more than account for private capital flows to emerging markets. This suggests that what appears to be a diversification of portfolios of residents of developed countries may be a restoration of "home bias" in the portfolios of residents of developing countries. We show that changes in the stock of capital flight can increase or decrease welfare depending on the structure of distortionary taxes and subsidies on capital income and the effects of capital flight on the tax base.

Dowlatabadi, Hadi

PD March 1994. **TI** Distributional and Environmental Consequences of Taxes on Energy: A Partial Equilibrium Model of U.S. Household Energy Demand. **AU** Dowlatabadi, Hadi; Kopp, Raymond J.; Tschang, F. Ted. **AA** Dowlatabadi and Tshang: Carnegie Mellon University. Kopp: Resources for the Future. **SR** Resources for the Future Discussion Paper: 94-19; Resources for the Future, 1616 P Street, N.W., Washington, D.C. 20036. **PG** 66. **PR** $3.00 (prepaid, U.S. funds only). **JE** H23, Q28, Q48. **KW** BTU Tax. Carbon Tax. Global Warming. Redistributive Effects.

AB Several recent research efforts have been directed toward an economic analysis of various U.S. Energy tax schemes designed to raise revenue and mitigate global warming by reducing emissions of carbon dioxide. These studies focus on the implications of alternative tax schemes for economic growth and sectoral production, prices, and employment. While these studies find the effects on economic growth to be quite small if the tax revenues are used to reduce labor taxes, they neglect an equally important set of economic and political variables, specifically the distribution of the energy tax burdens across U.S. households and the environmental gains that such taxes may bring forth. The purpose of this study is to examine the regional consequences of various energy tax schemes, both those designed for fiscal reasons and "green taxes" related to environmental policies. Our goal is to examine the level of taxes paid by U.S. households under alternative energy tax policies and to document the changing pattern of household emissions as a result of such taxes. To accomplish this goal we have constructed a detailed partial equilibrium model of household energy consumption. The model describes household demand for four types of energy products and differentiates household demand by geographic region. The household model is linked to electricity, petroleum, and natural gas pricing models enabling taxes on coal, crude petroleum, and natural gas to be reflected in the prices paid by households for the energy products they consume.

PD June 1994. **TI** Integrated Economic and Ecological Modeling for Public Policy Decision Making. **AU** Dowlatabadi, Hadi.; Goulder, Lawrence H.; Kopp, Raymond J. **AA** Dowlatabadi: Carnegie Mellon University. Goulder: Stanford University. Kopp: Resources for the Future. **SR** Resources for the Future Discussion Paper: 94-37; Resources for the Future, 1616 P Street, N.W., Washington, D.C. 20036. **PG** 117. **PR** $6.00. **JE** C68, D58, D61, H23. **KW** Sustainable Development. Cost-Benefit Analysis. Computable General Equilibrium. Environmental Regulation.
AB This report describes research conducted during the conceptual stage of a large research effort. The overall effort is intended to design, and eventually construct, a model useful to decision makers in their evaluations of policies affecting the economy and the environment. The research discussed in this report integrates human behavior and environmental response in a model that explicitly recognizes the joint state dependency of environmental quality and human well being conditioned by the actions of humans and the natural world. These types of models have been termed Integrated Behavior and Environmental Response (IBER) models.

TI An Analysis of Alternative Approaches to Implementing Social Costing of Electricity in Maryland. **AU** Palmer, Karen; Krupnick, Alan J.; Dowlatabadi, Hadi; Siegel, Stuart.

Duffee, Gregory R.

PD September 1994. **TI** On Measuring Credit Risks of Derivative Instruments. **AA** Board of Governors of the Federal Reserve System. **SR** Board of Governors of the Federal Reserve System Finance and Economics Discussion Series: 94-27; Board of Governors of the Federal Reserve System, C/O Sharon Kozicki, Mail Stop 61, Federal Reserve Board, Washington, DC 20551. **PG** 46. **PR** no charge. **JE** G13, G21, G28. **KW** Derivatives. Swaps. Credit Risk. Risk Management.
AB This paper critically reviews current practices for measuring credit risks of derivative instruments. It argues that there are three major problems with the standard measurement approach. First, it uses models of the stochastic behavior of financial variables while ignoring both their inherent oversimplification and the uncertainty in their parameters. Second, it ignores the correlations between exposures on derivative instruments and the probabilities of counterparty default. Third, it estimates upper bounds on credit losses associated with a given derivative instrument without regard to the composition of the portfolio of which the instrument is a part. This paper demonstrates that these practices can produce large errors in the measurement of both expected credit losses and upper bounds on these losses.

PD September 1994. **TI** Idiosyncratic Variation of Treasury Bill Yields. **AA** Board of Governors of the Federal Reserve System. **SR** Board of Governors of the Federal Reserve System Finance and Economics Discussion Series: 94-28; Board of Governors of the Federal Reserve System, C/O Sharon Kozicki, Mail Stop 61, Federal Reserve Board, Washington, DC 20551. **PG** 45. **PR** no charge. **JE** E43. **KW** Treasury Bills. Eurodollars. Expectations Hypothesis. Term Structure Models. Noise.
AB I document a dramatic increase in the relative importance of two types of idiosyncratic variation in Treasury bill yields beginning in the early 1980's. The first is idiosyncratic variation in individual short-maturity (less than three months) bill yields. The second is a common component in Treasury bill yields that is not shared by yields on other instruments, such as longer-maturity Treasury notes and bonds, Fed funds, or Eurodollars. The first type is likely the result of an increase in demand for specific-maturity bills; I am unable to explain the second type. I describe three implications of this idiosyncratic variation. First, typical interpretations of tests of expectations hypothesis using bills will misread variations in individual bill yields as information. Second, time series of "one-month" bill yields have different stochastic properties depending on the definition of the series; calibration of riskless term structure models with short-maturity yields should use Eurodollar yields. Third, using bill yields to estimate the relation between equity returns and changes in yields will misrepresent the relationship between equity returns and changes in yields on other instruments.

Dunne, Timothy

TI A Comparison of Job Creation and Job Destruction in Canada and the United States. **AU** Baldwin, John; Haltiwanger, John; Dunne, Timothy.

Easterly, William

PD May 1994. **TI** The Soviet Economic Decline: Historical and Republican Data. **AU** Easterly, William; Fischer, Stanley. **AA** Easterly: The World Bank. Fischer: Massachusetts Institute of Technology and National Bureau of Economic Research. **SR** National Bureau of Economic Research Working Paper: 4735; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PG** 23. **PR** $5.00. **JE** O41, O47, O53. **KW** Economic Growth. Investment. Human Capital. Soviet Union.
AB Soviet growth over 1960-89 was the worst in the world after we control for investment and human capital; the relative performance worsens over time. The declining Soviet growth rate over 1950-87 is explained by the declining marginal product of capital; the rate of TFP growth is roughly constant over that period. While the Soviet slowdown has conventionally been attributed to extensive growth (rising capital to output ratios), extensive growth is also a feature of market-oriented economies like Japan and Korea. What led to the relative Soviet decline was a low elasticity of substitution between capital and labor, which caused diminishing returns to capital to be especially acute. Tentative evidence indicates that the burden of defense spending also contributed to the Soviet debacle. Differences in growth performance between the Soviet republics are explained well by some of the same factors that figure in the empirical cross-section growth literature: initial income, human capital, population growth, and the degree of sectoral distortions.

Eaton, Jonathan

PD June 1994. **TI** Bilateralism and Regionalism in Japanese and U.S. Trade and Direct Foreign Investment Patterns. **AU** Eaton, Jonathan; Tamura, Akiko. **AA** Eaton: Boston University and National Bureau of Economic Research.

Tamura: Boston University. **SR** National Bureau of Economic Research Working Paper: 4758; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PG** 17. **PR** $5.00. **JE** F13, F14, F21. **KW** Foreign Direct Investment. International Trade.

AB We apply a modified "gravity model" incorporating measures of factor endowments to analyze Japanese and U.S. bilateral trade flows and direct foreign investment positions with a sample of around 100 countries for the period 1985-1990. Country features that our analysis takes into account are population, income, the land-labor ratio, the average level of education, and region. We find that features of a country associated with more trade with either Japan or the United States also tend to be associated with more DFI from Japan or the United States. U.S. economic relations with Japan and Western Europe provide an important exception. Despite U.S. concern about its trade deficit with Japan, we find Japan to be much more open to the United States, not only as a source of imports, but also as a destination for U.S. exports than most countries in Western Europe. Taking other factors into account, however, Western Europe is more open to U.S. direct foreign investment. We also find that a country's level of education tends to increase significantly U.S. interaction of all types with that country, even after correcting for per capita income. Education does not play a significant role in Japanese trade patterns. As factor endowments theory would predict, the United States tends to trade more with densely-populated countries, while Japan tends to import more from sparsely-populated countries. Even after taking into account population, income, factor endowments, and region, there is a substantial degree of "bilateralism" in Japanese and U.S. economic relationships in that the residual correlation among exports, imports, and outward direct foreign investment is much larger than would be the case if these magnitudes were independent across countries.

TI Agglomeration and the Price of Land: Evidence From the Prefectures. **AU** Dekle, Robert; Eaton, Jonathan.

Edelstein, David

TI Reducing Emissions From Old Cars: The Economics of the Delaware Vehicle Retirement Program. **AU** Alberini, Anna; Edelstein, David; Harrington, Winston; McConnell, Virginia.

Edwards, Sebastian

PD June 1994. **TI** Trade and Industrial Policy Reform in Latin America. **AA** The World Bank and National Bureau of Economic Research. **SR** National Bureau of Economic Research Working Paper: 4772; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PG** 43. **PR** $5.00. **JE** F13, L52. **KW** Trade Reform. Industrial Policy. Latin America.

AB This paper documents and evaluates the process of trade reforms in Latin America from the mid-1980's until 1993. It provides an analytical and historical discussion of the consequences of industrial policies in the region, from the early 1950's when import-substitution ideas were supported by the Economic Commission for Latin America, to the 1990's when liberal regimes were embraced. A careful distinction is made between policies based on strict import substitution and policies that combine high and uneven import tariffs with export promotion. Additionally, the role of supporting policies to assure the success of trade liberalization is assessed. Important questions related to the sequencing of economic reform are discussed in detail, with particular emphasis on the proper sequencing of stabilization and trade reform policies. The extent of trade reform in Latin America is also discussed. The analysis concentrates on the evolution of productivity and exports, and it deals with several countries' experiences. The role of real exchange rates in the trade liberalization process is studied, and the recent trend towards appreciation observed in many countries in the region is scrutinized. Finally, the paper contains an analysis of the recent attempts at reviving regional integration agreements, and of the consequences of the completion of GATT for Latin American nations.

Eichenbaum, Martin

TI The Effects of Monetary Policy Shocks: Some Evidence From the Flow of Funds. **AU** Christiano, Lawrence J.; Eichenbaum, Martin; Evans, Charles.

Eom, Young Sook

PD March 1994. **TI** Calibrated Nonmarket Valuation. **AU** Eom, Young Sook; Smith, V. Kerry. **AA** Eom: Clark University. Smith: North Carolina State University. **SR** Resources for the Future Discussion Paper: 94-21; Resources for the Future, 1616 P Street, N.W., Washington, D.C. 20036. **PG** 65. **PR** $3.00 (prepaid, U.S. funds only). **JE** D12, D81, Q18. **KW** Revealed Preference Models. Calibration. Pesticide Risks. Food Safety.

AB This paper develops a framework for combining revealed and stated preference data in estimating people's responses to environmental risks. The approach is applied to the risks posed by pesticide residues on fresh produce. The model and results from a pilot application to households' demands for produce contrast with past work in three ways: (a) the framework includes technical risks; (b) it permits estimation of the Hicksian consumer surplus for policies to reduce pesticide residues; and (c) the commodity definition is not limited to a single type of produce.

Epp, Donald J.

TI Cross-Country Analyses Don't Estimate Health-Health Responses. **AU** Smith, V. Kerry; Epp, Donald J.; Schwabe, Kurt A.

Espinosa, J. Andres

PD March 1994. **TI** Implementing Thatcher's Full Repairing Lease: A CGE Analysis of the Role for Environmental Resources in Adjusting GDP. **AU** Espinosa, J. Andres; Smith, V. Kerry. **AA** North Carolina State University. **SR** Resources for the Future Discussion Paper: 94-22; Resources for the Future, 1616 P Street, N.W., Washington, D.C. 20036. **PG** 56. **PR** $3.00 (prepaid, U.S. funds only). **JE** D58, Q21. **KW** CGE Model. Environmental Accounting. Virtual Prices.

AB This paper develops virtual price indexes for non-marketed goods and presents results using the solutions of a CGE model with an environmental public good, intended to represent pollution, to evaluate the properties of these price indexes. The indexes are also used with the quantity of pollution to adjust measures of aggregate GDP. The price indexes are constructed as weighted averages of individual households' linearized willingness-to-pay estimates. The theoretical justifications for the indexes arise from using first order approximations of individuals' expenditure functions.

The results suggest that all the first order approximations that we considered have substantial errors, even those recognizing general equilibrium price effects. Nonetheless, for our example, the errors are consistent with the understatement of the effects of environmental services on aggregate output.

Evans, Charles

TI The Effects of Monetary Policy Shocks: Some Evidence From the Flow of Funds. **AU** Christiano, Lawrence J.; Eichenbaum, Martin; Evans, Charles.

Fairlie, Robert W.

PD July 1994. **TI** The Ethnic and Racial Character of Self-Employment. **AU** Fairlie, Robert W.; Meyer, Bruce D. **AA** Fairlie: University of California, Santa Cruz. Meyer: Northwestern University and National Bureau of Economic Research. **SR** National Bureau of Economic Research Working Paper: 4791; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PG** 47. **PR** $5.00. **JE** J23, J31, J71, J15. **KW** Self-Employment. Ethnicity. Wages.

AB Using the 1980 and 1990 Censuses, we show that self-employment rates differ substantially across ethnic and racial groups in the U.S. These differences exist for both men and women, within broad combinations of ethnic/racial groups such as Europeans, Asians, Hispanics, and blacks, and after controlling for variables such as age, education, immigrant status, and time in the country. Although there are large differences in self-employment rates across ethnic/racial groups, the processes determining self-employment within each ethnic/racial group are not substantially different. We find fairly similar effects of age, education, year of immigration, and other factors in determining who is self-employed for most groups. We examine whether ethnic/racial self-employment rates are associated with group returns to self-employment. We find evidence of a positive association between an ethnic/racial group's self-employment rate and the difference between average self-employment and wage/salary earnings for that group. This result suggests that our economic model of the self-employment decision may be useful in explaining differences in self-employment rates across ethnic/racial groups. We also find that different ethnic/racial groups who immigrate from countries with high self-employment rates have high self-employment rates in the U.S.

Feenberg, Daniel R.

PD April 1994. **TI** Recent Developments in the Marriage Tax. **AU** Feenberg, Daniel R.; Rosen, Harvey S. **AA** Feenberg: National Bureau of Economic Research. Rosen: Princeton University and National Bureau of Economic Research. **SR** National Bureau of Economic Research Working Paper: 4705; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PG** 16. **PR** $5.00. **JE** H22, H24, K34. **KW** Marriage Tax. Tax Incidence. Taxation.

AB The new tax law increases tax rates for high income individuals, and expands the earned income tax credit for low income individuals. We use a sample of actual tax returns to compute estimates of the "marriage tax"--the change in couples joint tax upon marriage--under this new law. We predict that in 1994, 52 percent of American couples will pay a marriage tax, with an average of about $1,244; 38 percent will receive a subsidy averaging about $1,399. These aggregate figures mask a considerable amount of dispersion in the population. Under the new law, the marriage tax for certain low-income families can exceed $3,000 annually; for certain very high income families it can exceed $10,000 annually.

Fejerdy-Dobolvi, Hajna

TI Two Essays on Water Quality in Central and Eastern Europe. **AU** Paulsen, Charles M.; Fejerdy-Dobolvi, Hajna.

Feldstein, Martin

PD June 1994. **TI** Can State Taxes Redistribute Income? **AU** Feldstein, Martin; Vaillant, Marian. **AA** National Bureau of Economic Research. **SR** National Bureau of Economic Research Working Paper: 4785; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PG** 30. **PR** $5.00. **JE** H23, H24, D31, J31. **KW** Taxation. Income Distribution. Wages.

AB The evidence presented in this paper supports the basic theoretical presumption that state and local governments cannot redistribute income. Since individuals can avoid unfavorable taxes by migrating to jurisdictions that offer more favorable tax conditions, a relatively unfavorable tax will cause gross wages to adjust until the resulting net wage is equal to that available elsewhere. The current empirical findings go beyond confirming this long-run tendency and show that gross wages adjust rapidly to the changing tax environment. Thus, states cannot redistribute income for a period of even a few years. The adjustment of gross wages to tax rates implies that a more progressive tax system raises the cost to firms of hiring more highly skilled employees and reduces the cost of lower skilled labor. A more progressive tax thus induces firms to hire fewer high skilled employees and to hire more low skilled employees. Since state taxes cannot alter net wages, there can be no trade-off at the state level between distribution goals and economic efficiency. Shifts in state tax progressivity, by altering the structure of employment in the state and distorting the mix of labor inputs used by firms in the state, create deadweight efficiency losses without achieving any net redistribution of income.

Feng, Qi

PD August 1994. **TI** Transportation Cost and Industrial Structure: A Test With China's Cross-Regional Data. **AU** Feng, Qi; Gong, Changzhen; Li, Shuhe. **AA** University of Minnesota. **SR** University of Minnesota Center for Economic Research Discussion Paper: 274; Department of Economics, 1035 Management and Economics, University of Minnesota, 271 19th Avenue South, Minneapolis, MN 55455. **PG** 15. **PR** no charge. **JE** L11, L91, D43. **KW** Transportation Costs. Industrial Structure. Spatial Model.

AB China's cross-regional data are used to test a spatial model in which some relationships among transportation costs, the number of firms, fixed capital investment, and institutional arrangements arise endogenously. We show that the number of firms is positively related to transportation costs, and inversely related to firm's average fixed capital investment. The market mechanism generates more firms than the planned mechanism does.

Fernandez-Arias, Eduardo

TI Recent Private Capital Inflows to Developing Countries: Is the Debt Crisis History? **AU** Dooley, Michael P.; Kletzer, Kenneth M.; Fernandez-Arias, Eduardo.

Fernandez-Cornejo, Jorge

TI Regulation and Firm Size, Foreign-Based Company Market Presence, Merger Choice in the U.S. Pesticide Industry. **AU** Ollinger, Michael; Fernandez-Cornejo, Jorge.

Finger, J. Michael

PD May 1994. **TI** The MFA Paradox: More Protection and More Trade? **AU** Finger, J. Michael; Harrison, Ann. **AA** The World Bank. **SR** National Bureau of Economic Research Working Paper: 4751; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PG** 41. **PR** $5.00. **JE** L67, D73, L51. **KW** Textile Industry. Legislation. Exports.

AB The textile industry's political power stemmed from its importance in southern states plus the power of the Southern delegation in the U.S. Congress in the 1960's. The strongest resistance to the industry's pressure for protection came from the foreign policy interests of the Executive branch. A constellation of influences explains why negotiated, or voluntary export restraints (VER's), sanctioned by international agreements (the Multi-Fiber Arrangement) was the form protection took. First, the Japanese industry, at the time the world's leading textile exporter, already in the 1930's had exhibited a willingness to accept negotiated agreements to trade disputes. Second, the U.S. Executive, having been a leader in establishing the GATT system to control the sort of unilateral restrictive actions that contributed to the 1930's depression, was reluctant to take unilateral action. Third, the arrangement was acceptable to the U.S. industry because, through their particular power over agricultural legislation, the Southern delegation won passage, as amendments to agriculture bills, of legislation to enforce these "voluntary" restraints at the U.S. border. But because enforcement remained with the Executive branch, it tended to follow the letter of the agreements, hence exports could continue to expand by shifting to new product varieties and to new supplier countries.

Fischer, Stanley

TI The Soviet Economic Decline: Historical and Republican Data. **AU** Easterly, William; Fischer, Stanley.

Flood, Robert P.

PD May 1994. **TI** Issues Concerning Nominal Anchors for Monetary Policy. **AU** Flood, Robert P.; Mussa, Michael. **AA** International Monetary Fund. **SR** International Monetary Fund Working Paper: WP/94/61; International Monetary Fund, 700 19th Street, Washington, DC 20431. **PG** 22. **PR** not available. **JE** E52, F41. **KW** Monetary Policy. Business Cycle. Inflation.

AB This paper presents a selective survey of issues relevant to the choice of nominal anchors for monetary policy. Section I reviews long price-level histories for the United Kingdom and United States, which reveal that the price level behaved very differently following WWII in these countries than it had done in previous post-war experiences. In particular, following WWII, the responsibilities of monetary policy expanded to encompass a business-cycle stabilization role and the nominal anchor shifted from the fixed anchor or price-level stability to the moving anchor of inflation-rate stability. The remaining sections of the paper review some of the considerations that are relevant to setting the average inflation rate in countries without a fixed nominal anchor.

Flyer, Frederick D.

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

Fong, Wai-Ming

TI Information, Trading and Stock Returns: Lessons From Dually-Listed Securities. **AU** Chan, K.C.; Stulz, Rene M.; Fong, Wai-Ming.

Forslund, Anders

PD July 1994. **TI** An Evaluation of the Swedish Active Labor Market Policy: New and Received Wisdom. **AU** Forslund, Anders; Krueger, Alan B. **AA** Forslund: Uppsala University. Krueger: Princeton University. **SR** Princeton Industrial Relations Section Working Paper: 332; Industrial Relations Section, Department of Economics, Princeton University, Princeton, NJ 08544-2098. **PG** 59. **PR** $2.00. **JE** J68. **KW** Sweden. Labor Market. Active Labor Market Programs.

AB About 3% of GNP is spent on government labor market programs in Sweden, compared to 2% in Germany and less than 0.5% in the U.S. In Sweden these programs include extensive job training, public sector relief work, recruitment subsidies, youth programs, mobility bonuses, and unemployment benefits. Using county-level data, we provide new evidence that public relief workers displace other workers, especially in the construction sector. Our review of the previous literature suggests that job training programs have small effects on wages and re-employment in Sweden, but precise inferences are difficult because of small sample sizes. We also investigate alternative reasons for the stability of the Beveridge Curve in Sweden, and compare regional evolutions of employment and unemployment in Sweden and the U.S. Lastly, we present cross-country analysis for 1993 which, contrary to studies that use earlier data, shows that the extent of a country's active labor market programs is positively associated with the national unemployment rate.

Frederick, Kenneth D.

TI Compensation Principles for the Idaho Drawdown Plan. **AU** Burtraw, Dallas; Frederick, Kenneth D.

PD June 1993. **TI** Estimating the Effects of Climate Change and Carbon Dioxide on Water Supplies in the Missouri River Basin. **AU** Frederick, Kenneth D.; McKenney, Mary S.; Rosenberg, Norman J.; Balzer, Daniel K. **AA** Resources for the Future. **SR** Resources for the Future, Energy and Natural Resources Division Discussion Paper: ENR93-18; Energy and Natural Resources Division, Resources for the Future, 1616 P Street, NW., Washington, DC 20036. **PG** 39. **PR** $3.00 prepaid (U.S. funds only). **JE** Q25. **KW** Climate Change. Water. Carbon Dioxide. Missouri Basin.

AB Changes in the temperature, precipitation, and other climate variables can have major impacts on water availability by influencing both the amount of water that falls as precipitation and the amount of water that returns to the atmosphere through evaporation and transpiration. A growing body of research also suggests that carbon dioxide may affect water availability through its influence on vegetation. This study presents and illustrates a methodology for assessing the impacts of climate change, including carbon dioxide enrichment, on the availability and adequacy of water supplies. The Erosion Productivity Impact Calculator (EPIC) model is used to estimate runoff from various land covers and soil types within the Missouri Basin under three climate scenarios: (1) the 1951-1980 climate with 350 ppm atmospheric carbon dioxide; (2) the 1931-1940 climate record with 350 ppm carbon dioxide; and (3) the 1931-1940 climate record with 450 ppm carbon dioxide. The analysis suggests that carbon dioxide enrichment would have a positive impact on runoff, especially from land in perennial crops such as alfalfa and wheatgrass. However, the positive carbon dioxide effect would offset only a small fraction of the negative impacts on streamflows resulting from the higher temperature and lower precipitation rates that characterized the analog climate.

PD February 1994. **TI** Long-Term Water Costs. **AA** Resources for the Future. **SR** Resources for the Future Discussion Paper: 94-14; Resources for the Future, 1616 P Street, N.W., Washington, D.C. 20036. **PG** 21. **PR** $3.00 (prepaid, U.S. funds only). **JE** Q25, Q21. **KW** Conservation. Diversion. Pricing.
AB The first part of this paper examines some of the options for supplying additional water for offstream use and the forces likely to influence their long-term social costs. These costs include: (1) the financial costs of storing water to increase the reliability of supply, transporting it to the place of use, and treating it to achieve a desired quality; (2) the net environmental impacts associated with the construction of the supply facilities and the opportunity costs of the water; and (3) the social cost or benefit of the return flows. Augmenting water supplies through structural or more exotic means is becoming increasingly costly. Improved management of existing supplies may provide the most cost-effective water-supply investments over the next decade. However, the potential for such increases has not been studied in most areas of the country. In contrast to the constraints on supplies, demands for both instream and withdrawal uses of water rise with economic and population growth. Consequently, demand management must be the primary means of balancing water supplies with future demands.

Freeman, III, A. Myrick
PD April 1992. **TI** Accounting for Environmental Costs in Electric Utility Resource Supply Planning. **AU** Freeman, III, A. Myrick; Burtraw, Dallas; Harrington, Winston; Krupnick, Alan J. **AA** Freeman: Bowdoin College. Burtraw, Harrington and Krupnick: Resources for the Future. **SR** Resources for the Future, Quality of the Environment Division Discussion Paper: 92-14; Quality of the Environment Division, Resources for the Future, 1616 P Street, NW., Washington, DC 20036. **PG** 28. **PR** $3.00 prepaid (U.S. funds only). **JE** Q28, Q48, L94. **KW** Utility Planning. Environmental Costs. Externalities. Internalization.
AB Several state public utility commissions have initiated efforts to account for environmental costs in electric utility resource supply planning. The question we address is, with the price of electricity constant, whether the marginal environmental damage of an increase in electricity supply is the correct adjustment (or adder) to private cost for least social cost utility planning. The correct adder depends on the form that existing environmental policies take. That is, whether pollution is controlled by taxation, tradable emissions permits, or direct command and control regulation. We make explicit the circumstances under which the correct adder will be equal to marginal damages, will be some other positive number, will be zero, or will be negative. When existing environmental policies take the form of command and control regulation the correct adder is always just equal to marginal damages. In addition, we offer some general normative guidelines and caveats about approaches currently being pursued by state utility commissions.

TI Some Simple Analytics of Social Costing in a Regulated Industry. **AU** Burtraw, Dallas; Harrington, Winston; Freeman, III, A. Myrick; Krupnick, Alan J.

TI Some Simple Analytics of Social Costing in a Regulated Industry. **AU** Burtraw, Dallas; Harrington, Winston; Freeman, III, A. Myrick; Krupnick, Alan J.

Freeman, Richard B.
TI The Legacy of Communist Labor Relations. **AU** Blanchflower, David G.; Freeman, Richard B.

PD July 1994. **TI** Do Unions Make Enterprises Insolvent? **AU** Freeman, Richard B.; Kleiner, Morris M. **AA** Freeman: Harvard University, London School of Economics, and National Bureau of Economic Research. Kleiner: University of Minnesota and National Bureau of Economic Research. **SR** National Bureau of Economic Research Working Paper: 4797; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PG** 19. **PR** $5.00. **JE** J51, J31, L21, D21. **KW** Unionization. Business Survival. Competitive Markets.
AB This study investigates the impact of unionization and firm, business line, or establishment survival. A consistent empirical finding is that unions raise wages above those found in nonunion firms, and that in a competitive product market one would expect to find that unionized firms would go out of business more than nonunion firms. However, if unions engage in economic rent-sharing, then during periods of economic hardship unionized firms may be able to remain solvent by giving back some of these rents. In order to answer this question we analyze three data sets: a data set on the union status of solvent and insolvent enterprises and business lines from the Compustat files, a data set on the union status of workers who have lost their jobs due to permanent plant closures or business failures obtained by matching files from Current Population Survey, and a data set from the Federal Mediation and Conciliation Service on the outcomes of elections won by unions and on the outcomes of labor-management dispute cases. Overall, our results are consistent with the hypothesis that unions behave in an economically rational manner, pushing wages to the point where union firms may expand less rapidly than nonunion firms, but not to the point where the firm, plant, or business line closes down.

Fuchs, Victor R.
PD June 1994. **TI** Mathematical Achievement in Eighth Grade: Interstate and Racial Differences. **AU** Fuchs, Victor R.; Reklis, Diane M. **AA** National Bureau of Economic Research. **SR** National Bureau of Economic Research Working Paper: 4784; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PG** 7. **PR** $5.00. **JE** I21, J15, J24. **KW** Education. Economics of Minorities. Assessment Test.
AB The 1992 eighth grade mathematics test of the National Assessment of Educational Progress reveals a low average level of achievement, wide variation across states, and a large difference in average scores of white and black students. Multiple regression analysis across states indicates that the

characteristics of children (such as readiness to learn in kindergarten) and of the households in which they live (such as mother's education) have much larger effects of NAEP test scores than do variables (such as the student/teacher ratio) that measure school characteristics. White-black differences in the levels of child and household variables account for much of the white-black difference in NAEP test scores.

Gangopadhyay, Shubhashis

TI Toward a Theoretical Model of Voluntary Overcompliance. **AU** Arora, Seema; Gangopadhyay, Shubhashis.

Gardner, Bruce L.

PD May 1994. **TI** The Political Economy of U.S. Export Subsidies for Wheat. **AA** University of Maryland. **SR** National Bureau of Economic Research Working Paper: 4747; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PG** 51. **PR** $5.00. **JE** Q13, Q17, N52, F14. **KW** Wheat. Export Enhancement Program. Subsidies.

AB During 1985-93, the U.S. Government provided $4.9 billion in subsidies to targeted foreign buyers of U.S. wheat under its Export Enhancement Program (EEP). The subsidies averaged $31 per metric ton, or about 25 percent of the U.S. price. The EEP generates a small gain to U.S. farmers, compared to its costs. Lacking a clear economic justification, the debate on the EEP indicates the following were the key factors in its political success: farmers and agribusiness have been unified in support of the program and have excellent political channels through which to express their views; domestic users of wheat have not opposed the program; and the program received an initial boost because of its use of large government-owned wheat stocks, allowing it to be treated as budget neutral in Congress. An economic argument that carried political weight was that the EEP, by increasing the costs of the European Community's wheat export subsidies, would encourage them to negotiate joint U.S./EC subsidy reductions. In fact, the EC in 1993 did agree to multilateral subsidy reductions in the GATT, as well as reforming their own policies unilaterally. But it remains questionable whether this outcome justifies the EEP.

Gaudet, Gerard

PD March 1993. **TI** Losses From the Complete Merger of First-Movers. **AU** Gaudet, Gerard; Salant, Stephen W. **AA** Gaudet: University of Quebec at Montreal. Salant: University of Michigan. **SR** Resources for the Future, Energy and Natural Resources Division Discussion Paper: ENR93-10; Energy and Natural Resources Division, Resources for the Future, 1616 P Street, NW., Washington, DC 20036. **PG** 7. **PR** $3.00 prepaid (U.S. funds only). **JE** L11, D21, D43. **KW** Market Structure. Horizontal Integration.

AB We consider an example in which the merger of all active firms in an industry results in a reduction in their profits. The principles underlying this example are clarified and shown to apply to Karp's (1992) example of losses from the merger.

Gentry, William M.

PD June 1994. **TI** Taxes and Fringe Benefits Offered by Employers. **AU** Gentry, William M.; Peress, Eric. **AA** Gentry: Duke University and National Bureau of Economic Research. Peress: Duke University. **SR** National Bureau of Economic Research Working Paper: 4764; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PG** 23. **PR** $5.00. **JE** J32, J33, H25. **KW** Fringe Benefits. Taxation. Compensation.

AB Using cross-sectional data for blue and white collar workers for U.S. cities, we examine how the tax treatment of fringe benefits affects whether employers offer benefits. Differences in state-level income taxes cause variation across places in the tax incentives for fringe benefits. We find that employers respond to tax incentives to offer fringe benefits, especially to blue collar workers. The tax incentives affect both the probability of basic benefits, such as medical coverage, and more "marginal" benefits, such as vision and dental coverage. Higher taxes also reduce the amount of explicit cost sharing for some benefits between employers and employees.

Gertler, Mark

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

Gertler, Paul J.

PD April 1994. **TI** Information and the Demand for Supplemental Medicare Insurance. **AU** Gertler, Paul J.; Sturm, Roland; Davidson, Bruce. **AA** Gertler: RAND Corporation and National Bureau of Economic Research. Sturm: RAND Corporation. Davidson: SysteMetrics, Santa Barbara, California. **SR** National Bureau of Economic Research Working Paper: 4700; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PG** 26. **PR** $5.00. **JE** D82, I11, I18. **KW** Health Care. Imperfect Information. Insurance.

AB While the critical role of imperfect information has become axiomatic in explaining health care market failure, the theory is backed by little empirical evidence. In this paper we use a unique panel data set with explicit measures of information and an educational intervention to investigate the role of imperfect information about health insurance benefits on the demand for supplemental Medicare insurance. We estimate a structural discrete choice model of the demand for supplemental Medicare insurance that allows imperfect information to affect both the mean and the variance of the expected benefits distribution. The empirical specification is a structural panel multinomial probit with an unrestricted variance-covariance, including heteroskedasticity and random effects to control for unobserved heterogeneity. The model is computationally complex and is estimated by simulated maximum likelihood. The empirical results indicate that imperfect information affects the demand for supplemental Medicare insurance by increasing the variance of the expected benefits distribution rather than by systematically shifting the mean of the distribution. We find that the increase in variance due to imperfect information increased the probability of choosing not to purchase supplemental insurance by about 23%. We also found that controlling for unobserved heterogeneity is important. The goodness of fit increased by about 25% and the precision of the estimated effect of information on the variance of the expected benefits distribution improved dramatically.

Gertner, Robert H.

PD June 1994. **TI** Internal Versus External Capital Markets. **AU** Gertner, Robert H.; Stein, Jeremy C.; Scharfstein, David S. **AA** Gertner: University of Chicago.

Stein and Scharfstein: Massachusetts Institute of Technology and National Bureau of Economic Research. **SR** National Bureau of Economic Research Working Paper: 4776; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PG** 17. **PR** $5.00. **JE** G31, G32. **KW** Corporate Finance. Capital Market. Bank Lending.
AB This paper presents a framework for analyzing the costs and benefits of internal versus external capital allocation. We focus primarily on comparing an internal capital market to bank lending. While both represent centralized forms of financing, in the former case the financing is owner-provided, while in the latter case it is not. We argue that the ownership aspect of internal capital allocation has three important consequences: 1) it leads to more monitoring than bank lending; 2) it reduces managers' entrepreneurial incentives; and 3) it makes it easier to efficiently redeploy the assets of projects that are performing poorly under existing management.

Gilchrist, Simon

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

Glaeser, Edward L.

TI Evidence on Growth, Increasing Returns and the Extent of the Market. **AU** Ades, Alberto F.; Glaeser, Edward L.

TI Trade and Circuses: Explaining Urban Giants. **AU** Ades, Alberto F.; Glaeser, Edward L.

PD May 1994. **TI** Cities and Skills. **AU** Glaeser, Edward L.; Mare, David C. **AA** Glaeser: Harvard University and National Bureau of Economic Research. Mare: Harvard University. **SR** National Bureau of Economic Research Working Paper: 4728; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PG** 22. **PR** $5.00. **JE** J31, J11, R11. **KW** Wages. Urban Environment. Skill Accumulation.
AB This paper examines the productivity (and wage) gains from locating in dense, urban environments. We distinguish between three potential explanations of why firms are willing to pay urban workers more: (1) the urban wage premium is spurious and is the result of omitted ability measures, (2) the urban wage premium works because cities enhance productivity, and (3) the urban wage premium is the result of faster skill accumulation in cities. Using a combination of standard regressions, individual fixed effects estimation (using migrants) and instrumental variables methods, we find that the urban wage premium does not represent omitted ability bias and it is only in part a level effect to productivity. The bulk of the urban wage premium accrues over time as a result of greater skill accumulation in cities.

Glickman, Theodore S.

PD March 1994. **TI** The Cost-Risk Tradeoffs Associated With Rerouting Interstate Highway Shipments of Hazardous Materials to Minimize Risk. **AA** Resources for the Future. **SR** Resources for the Future Discussion Paper: 94-24; Resources for the Future, 1616 P Street, N.W., Washington, D.C. 20036. **PG** 13. **PR** $3.00 (prepaid, U.S. funds only). **JE** Q28, L98. **KW** Hazardous Materials. Highway Transportation.
AB Recent legislative and regulatory activities at the federal level have focused attention on the highway routing of hazardous materials. The question is whether routes that minimize the risk of release accidents should be used in lieu of the routes that have the lowest operating costs. This policy issue is addressed for interstate shipments by using a national network model to determine the practical route and minimum risk route between each of 100 different origin-destination pairs (state capitals). The resulting cost-risk tradeoffs are then used to estimate the average cost of rerouting per fatality averted, the value of which turns out to be within the range of values for a number of familiar existing regulations.

Goldin, Claudia

PD April 1994. **TI** The U-Shaped Female Labor Force Function in Economic Development and Economic History. **AA** Harvard University and National Bureau of Economic Research. **SR** National Bureau of Economic Research Working Paper: 4707; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PG** 26. **PR** $5.00. **JE** J22, J23, J24, N12, O11. **KW** Labor Force. Female Workers. Employment Determination.
AB The labor force participation rate of married women first declines and then rises as countries develop. Its U-shape is revealed both across the process of economic development and through the histories of currently advanced economies. The initial decline in the participation rate is due to the movement of production from the household, family farm, and small business to the wider market, and to a strong income effect. But the income effect weakens and the substitution effect strengthens at some point. This paper explores why the change takes place and why the U-shape is traced out. When women are poorly educated their only wage labor outside the home and family farm is in manual work, against which a strong social stigma exists. But when women are educated, particularly at the secondary level, they enter white-collar work, against which no social stigma exists. Data for more than one-hundred countries and for United States history are used to explore the hypothesis of the U-shaped female labor force function.

PD June 1994. **TI** How America Graduated From High School: 1910 to 1960. **AA** Harvard University and National Bureau of Economic Research. **SR** National Bureau of Economic Research Working Paper: 4762; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PG** 27. **PR** $5.00. **JE** J24, J31, I21. **KW** Human Capital. Education. Immigration.
AB Human capital accumulation and technological change were to the twentieth century what physical capital accumulation was to the nineteenth century--the engine of growth. The accumulation of human capital accounts for almost 60% of all capital formation and 28% of the per capita growth residual from 1929 to 1982. Advances in secondary schooling account for about 70% of the increase in total educational attainment from 1930 to 1970 for men 40 to 44 years old. High school, not college, was responsible for the enormous increase in the human capital stock during much of this century. In this paper I answer when and where high schools advanced in the 1910- to 1960 period. The most rapid expansion in the non-South regions occurred in the brief period from 1920 to 1935. The 1920's provided the initial burst in high school attendance, but the Great Depression added significantly to high school enrollment and graduation rates. Attendance rates were highest in states, regions, and cities with the least reliance on manufacturing and in areas where agricultural income per worker was high. Schooling was particularly low where certain industries that hired youths were dominant and where the

foreign born had entered in large numbers before the immigration restriction of the 1920's. More education enabled states to converge to a higher level of per capita income between 1929 and 1947, and states rich in agricultural resources, yet poor in manufacturing, exported educated workers in later decades.

Gong, Changzhen

TI Transportation Cost and Industrial Structure: A Test With China's Cross-Regional Data. **AU** Feng, Qi; Gong, Changzhen; Li, Shuhe.

Gordon, Roger H.

PD May 1994. **TI** Why Is Capital So Immobile Internationally?: Possible Explanations and Implications for Capital Income Taxation. **AU** Gordon, Roger H.; Bovenberg, A. Lans. **AA** University of Michigan and Center, KUB. **SR** University of Michigan Research Forum on International Economics Discussion Paper: 358; Professor Robert M. Stern, Institute of Public Policy Studies, University of Michigan, 440 Lorch Hall, Ann Arbor, MI 48109-1220. **PG** 21. **PR** $4 (U.S. Funds) for shipping and handling (checks should be payable to: IPPS. Enclose with order). **JE** D82, F21, H25. **KW** Capital Mobility. Asymmetric Information. Capital Taxation.

AB The evidence on international capital immobility is extensive, ranging from the correlations between domestic savings and investment pointed out by Feldstein-Horioka (1980), to real interest differentials across countries, to the lack of international portfolio diversification. To what degree does capital immobility modify past results forecasting that small open economies should not tax savings or investment? Our paper explores the role of asymmetric information in explaining the observed capital immobility. We find that a model incorporating asymmetric information can readily explain the above observations regarding capital mobility. When we examine optimal tax policy in an open economy, allowing for asymmetric information, however, the conclusions become even more dramatic. Rather than simply finding that savings and investment should not be taxed, we now forecast government subsidies to foreign acquisitions of domestic firms. Some omitted factors that would argue against subsidizing foreign acquisitions are explored briefly.

PD May 1994. **TI** Why Is There Corporation Taxation in a Small Open Economy? The Role of Transfer Pricing and Income Shifting. **AU** Gordon, Roger H.; MacKie-Mason, Jeffrey K. **AA** University of Michigan and National Bureau of Economic Research. **SR** University of Michigan Research Forum on International Economics Discussion Paper: 359; Professor Robert M. Stern, Institute of Public Policy Studies, University of Michigan, 440 Lorch Hall, Ann Arbor, MI 48109-1220. **PG** 31. **PR** $4 (U.S. Funds) for shipping and handling (checks should be payable to: IPPS. Enclose with order). **JE** H25, F23, H21. **KW** Corporation Taxation. Transfer Pricing. Income Shifting.

AB Several recent papers argue that corporate income taxes should not be used by small, open economies. With capital mobility, the burden of the tax falls on fixed factors (e.g., labor), and the tax system is more efficient if labor is taxed directly. However, corporate taxes not only exist but rates are roughly comparable with the top personal tax rates. Past models also forecast that multinationals should not invest in countries with low corporate tax rates, since the surtax they owe when profits are repatriated puts them at a competitive disadvantage. Yet such foreign direct investment is substantial. We suggest that the resolution of these puzzles may be found in the role of income shifting, both domestic (between the personal and corporate tax bases) and cross-border (through transfer pricing). Countries face pressure to enact cash-flow corporate taxes as a backstop to labor taxes to discourage individuals from converting their labor income into otherwise untaxed corporate income. We explore how these taxes can best be modified to deal as well with cross-border shifting.

PD July 1994. **TI** Why is Capital so Immobile Internationally?: Possible Explanations and Implications for Capital Income Taxation. **AU** Gordon, Roger H.; Bovenberg, A. Lans. **AA** Gordon: University of Michigan and National Bureau of Economic Research. Bovenberg: Tilburg University. **SR** National Bureau of Economic Research Working Paper: 4796; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PG** 27. **PR** $5.00. **JE** F32, F21, F41, H25. **KW** Capital Mobility. Investment. Taxation.

AB The evidence on international capital immobility is extensive, ranging from the correlations between domestic savings and investment pointed out by Feldstein-Horioka (1980), to real interest differentials across countries, to the lack of international portfolio diversification. To what degree does capital immobility modify past results forecasting that small open economies should not tax savings or investment? The answer depends on the cause of this immobility. We argue that asymmetric information between countries provides the most plausible explanation for the above observations. When we examine optimal tax policy in an open economy allowing for asymmetric information, rather than simply finding that savings and investment should not be taxed, we now forecast government subsidies to foreign acquisitions of domestic firms. Some omitted factors that would argue against subsidizing foreign acquisitions are explored briefly.

Gosling, Amanda

PD May 1994. **TI** Trade Unions and the Dispersion of Earnings in British Establishments, 1980-90. **AU** Gosling, Amanda; Machin, Stephen. **AA** Gosling: Institute for Fiscal Studies, London. Machin: London School of Economics, Harvard University, and National Bureau of Economic Research. **SR** National Bureau of Economic Research Working Paper: 4732; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PG** 16. **PR** $5.00. **JE** J51, J31. **KW** Unionization. Trade Unions. Wage Differential.

AB The relationship between unions and earning dispersion is examined using establishment-level data from the 1980, 1984, and 1990 Workplace Industrial Relations Surveys. Initially, the cross-sectional relationship is examined using the 1990 data. The earnings dispersion of skilled and semi-skilled workers is seen to be lower across unionized establishments than across non-union establishments; secondly, within-establishment earnings dispersion is lower in plants which recognize trade unions for collective bargaining purposes than in those that do not. All three surveys are then utilized to ascertain to what extent the decline in unionization in Britain has contributed to the rise in earnings inequality of semi-skilled workers. There was a sizable and important widening of the gap in the dispersion of earnings across union and non-union plants between 1980-1990. For semi-skilled earnings, the decline in the share of plants with recognized unions can account for 11-17% of the rise in earnings inequality over this time period. The importance of falling union activity (as measured by union recognition) seemed to accelerate through the 1980's. Between 1980 and 1984 the relatively small falls in aggregate recognition explain less than 10% of the inequality increase, whereas between 1984 and 1990 about one-quarter of the increase can be accounted for by the fall in unionization. The majority of the rise in earnings inequality is, however, due to a large increase in earnings dispersion across non-union establishments.

TI British Unions in Decline: An Examination of the 1980's Fall in Trade Union Recognition. **AU** Disney, Richard; Machin, Stephen; Gosling, Amanda.

Goulder, Lawrence H.

TI Integrated Economic and Ecological Modeling for Public Policy Decision Making. **AU** Dowlatabadi, Hadi.; Goulder, Lawrence H.; Kopp, Raymond J.

Grenadier, Steven R.

PD November 1993. **TI** The Persistence of Real Estate Cycles. **AA** Stanford University. **SR** Stanford Graduate School of Business Research Paper: 1296; Graduate School of Business, Stanford University, Stanford, CA 94305-5015. **PG** 39. **PR** no charge. **JE** D11, L11, E32, L85. **KW** Options. Real Estate. Cycles.

AB The paper presents a model which attempts to explain the underlying causes of the prolonged cycles observed in real estate markets. In addition, the paper characterizes the features which make some property types more prone to such boom and bust behavior. The combination of demand uncertainty, adjustment costs, and construction lags leads to two phenomena which may help explain market persistence. The first phenomenon is the reluctance of owners to adjust occupancy levels, even in the face of large shifts in renter demand. The second phenomenon is the occurrence of periods of sustained overbuilding; the addition of new supply in the face of already high vacancy rates.

PD April 1994. **TI** Optimal Migration Strategies for Firms Facing Technological Innovations: An Option Pricing Approach. **AU** Grenadier, Steven R.; Weiss, Allen M. **AA** Stanford University. **SR** Stanford Graduate School of Business Research Paper: 1300; Graduate School of Business, Stanford University, Stanford, CA 94305-5015. **PG** 27. **PR** no charge. **JE** D21, L23, O32. **KW** Real Option. Technology. Adoption.

AB Using an option pricing approach, this paper develops a model of a firm's optimal investment strategy when confronted with a sequence of technological innovations. There are several key features of the model. First, successive innovations of technology are stochastic in both their arrival times, as well as in their profitability. Second, we incorporate the feature of "learning by doing" in that firms choosing to adopt a current innovation become better able to reap the benefits of future innovations. Third, rather than assuming that current innovations disappear when newer innovations arrive, our model more realistically assumes that the previous generation of technology remains a viable market alternative, perhaps at a discounted cost. These features of the model induce a "path dependency" into the firm's operating options; two firms facing the same choice will choose differently because of past adoption decisions. The model yields four potential migration strategies: the Compulsive strategy where firms adopt every innovation; the Leapfrog strategy where firms bypass the current innovation, but adopt the future innovation; the Buy-and-Hold strategy where firms adopt the current innovation, but fail to cash in on their learning by doing; and the Laggard strategy where firms bypass the current innovation, but adopt it later when the future innovation emerges. The model provides closed-form solutions for the probability that each strategy will be adopted. We then analyze the impact of key underlying variables and distinguish the factors which drive one strategy to dominate another. These implications are discussed and compared with observed firm behavior.

PD May 1994. **TI** Local and National Determinants of Office Vacancies. **AA** Stanford University. **SR** Stanford Graduate School of Business Research Paper: 1297; Graduate School of Business, Stanford University, Stanford, CA 94305-5015. **PG** 24. **PR** no charge. **JE** L85, D21. **KW** Real Estate. Vacancy. Office Building.

AB A model of vacancy rate determination is estimated using over thirty years of data for twenty U.S. office markets. The variances of individual city office vacancy rates are decomposed into common, time-varying components and city-specific fixed effects. City-specific persistence terms are also included to allow for lagged adjustment towards equilibrium. Three striking results are obtained. First, we find that the level of equilibrium is predominately determined by local, rather than national factors. Second, we find that it is the random shocks causing local deviations from equilibrium which reflect the integration across markets. Specifically, we find significant contemporaneous correlations of shocks across cities. Finally, the results depict a dramatic level of persistence in all markets. The model is then applied to determine whether the experience of the 1980's represented a structural break in the underlying office market structure.

PD May 1994. **TI** Flexibility and Tenant Mix in Real Estate Projects. **AA** Stanford University. **SR** Stanford Graduate School of Business Research Paper: 1298; Graduate School of Business, Stanford University, Stanford, CA 94305-5015. **PG** 24. **PR** no charge. **JE** L85, D11, D21. **KW** Leasing. Real Options. Real Estate. Flexibility.

AB This paper presents a model in which owners choose the optimal mix of tenants. Tenant types are broadly defined to include not only the standard distinctions (office, retail, industrial, residential), but also more subtle distinctions such as the nature of business (store type in shopping mall), preferences (high-quality versus no-frills), or degree of credit risk. There are three key features of the model. First, relative rent levels for different tenant types vary stochastically over time. Second, tenant demands for space are interrelated and may produce positive or negative externalities for other tenants. Third, altering the current mix results in the payment of adjustment costs. Using the methods of option pricing theory, the intertemporally optimal tenant mix policy is derived and analyzed. In particular, several factors are identified which impact the degree of landlord "cautiousness" in altering the current mix. Finally, the value of the optimal policy is decomposed into two forms of flexibility: dynamic flexibility emanating from the sequence of options to alter the mix in the future, and static flexibility resulting from choosing an initial optimally diversified "portfolio" of tenant types.

PD May 1994. **TI** Equilibrium in Asset Leasing Markets.

AA Stanford University. **SR** Stanford Graduate School of Business Research Paper: 1299; Graduate School of Business, Stanford University, Stanford, CA 94305-5015. **PG** 37. **PR** no charge. **JE** L85, E43, G12, G13. **KW** Leasing. Real Options. Real Estate.

AB Using a framework analogous to models of the term structure of interest rates, an intertemporal rational expectations equilibrium for the term structure of lease rates is developed. While active firms lease existing units of an underlying real asset, idle firms choose optimal entry strategies upon which they undertake construction of new supply. The industry is characterized by shocks to both demand and construction costs. Using an option-pricing framework, entry strategies, rent, and asset values are determined endogenously in equilibrium. The term structure of lease rates is seen to have many features in common with standard models of interest rate term structures. The model is then applied to a wide variety of real-world leasing contracts. First, equilibrium rents on forward leases ("pre-leasing") are determined. Second, options to renew or cancel a lease are valued. Third, leases with adjustable rents are analyzed. Finally, leases where the rent level is contingent upon the intensity of the asset's use are modeled.

Gruber, Jonathan

PD May 1994. **TI** The Consumption Smoothing Benefits of Unemployment Insurance. **AA** Massachusetts Institute of Technology and National Bureau of Economic Research. **SR** National Bureau of Economic Research Working Paper: 4750; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PG** 31. **PR** $5.00. **JE** J65, I38, D12. **KW** Unemployment Insurance. Consumption. Smoothing.

AB Previous research on unemployment insurance (UI) has focused on the costs of the program, in terms of the distorting effects of generous UI benefits on worker and firm behavior. For assessing the optimal size of an unemployment insurance program, however, it is also important to gauge the benefits of increased UI generosity, in terms of smoothing consumption across periods of joblessness. I do so through a reduced form approach which directly measures the effect of legislated variations in UI benefits on consumption changes among individuals becoming unemployed. I use annual observations on food consumption expenditures for 1968-1987 from the Panel Study of Income Dynamics, matched to information on the UI benefits for which unemployed persons were eligible in each state and year. I estimate that a 10 percentage point increase in the UI replacement rate leads to a consumption fall upon unemployment which is 2.7% smaller. Over this period, the average fall in consumption for the unemployed was 7%; my results imply that, in the absence of unemployment insurance, this fall would have been over three times as large. I also find that the positive effect of UI only extends for one period, smoothing consumption during initial job loss but having no permanent effect on consumption levels; that individuals who anticipate layoff see a smaller consumption smoothing effect; and that UI appears to somewhat crowd out other forms of public consumption insurance. Despite the substantial estimated consumption smoothing effect, however, my results imply that the optimal UI benefit level is within the range of current replacement rates only at fairly high levels of risk aversion.

Haltiwanger, John

TI A Comparison of Job Creation and Job Destruction in Canada and the United States. **AU** Baldwin, John; Haltiwanger, John; Dunne, Timothy.

TI Downsizing and Productivity Growth: Myth or Reality? **AU** Baily, Martin Neil; Haltiwanger, John; Bartelsman, Eric J.

Hamermesh, Daniel S.

PD June 1994. **TI** Policy Transferability and Hysteresis: Daily and Weekly Hours in the BRD and the U.S. **AA** University of Texas and National Bureau of Economic Research. **SR** National Bureau of Economic Research Working Paper: 4773; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PG** 22. **PR** $5.00. **JE** J38, J21. **KW** Labor Market. Public Policy. Minimum Wage.

AB I develop a model with the path of labor-market outcomes exhibiting hysteresis depending on prior labor-market policy. The results suggest that attempts to transfer policies across economies lead to surprising results even if current economic outcomes in the countries appear similar. Examples of minimum wages, optimal income maintenance, and training programs are given. The results are applied to a discussion of overtime laws and differences in days worked and weekly hours in the U.S. and Germany.

Hammour, Mohamoud L.

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

Han, Sang Hee

PD December 1993. **TI** A Forward-Looking General Equilibrium Simulation Model With an Application to the Australian Economy. **AA** Monash University. **SR** Centre of Policy Studies and the Impact Project Working Paper: G-105; Centre of Policy Studies and the Impact Project, Monash University, Clayton, Victoria, Australia 3168. **PG** 49. **PR** not available. **JE** C68, D58, E27. **KW** General Equilibrium. Econometrics. Australia.

AB An intertemporal general equilibrium econometric model with nationally aggregated production and consumption sectors is developed. The behavioral equations of the model--the Translog variable profit function and reparameterized AIDS--are econometrically estimated. The model is used to simulate the effects of tax and interest rate shocks on the Australian economy over the projected period.

Hanemann, W. Michael

TI Contingent Valuation and Lost Passive Use: Damages From the Exxon Valdez. **AU** Carson, Richard T.; Mitchell, Robert C.; Hanemann, W. Michael; Kopp, Raymond J.; Presser, Stanley; Ruud, Paul A.

TI Contingent Valuation and Lost Passive Use: Damages From the Exxon Valdez. **AU** Carson, Richard T.; Mitchell, Robert C.; Hanemann, W. Michael; Kopp, Raymond J.; Presser, Stanley; Ruud, Paul A.

Hanson, Gordon H.

PD April 1994. **TI** Regional Adjustment to Trade Liberalization. **AA** University of Texas and National Bureau of Economic Research. **SR** National Bureau of Economic

Research Working Paper: 4713; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PG** 31. **PR** $5.00. **JE** F02, F15, F14. **KW** Economic Integration. Trade Liberalization. Industry Location.

AB In this paper, I study the effect of economic integration with the United States on state-industry employment growth in Mexico. I disentangle the effects of two opposing forces on regional labor demand: transport-cost considerations, which, all else equal, encourage firms to relocate their activities to regions with relatively good access to foreign markets, and agglomeration economies, which, all else equal, reinforce the pre-trade pattern of industry location. I find that trade liberalization has strong effects on industry location. Consistent with the transport-costs hypothesis, post-trade employment growth is higher in state-industries that are relatively close to the United States. The results on agglomeration effects are mixed. Employment growth is higher where agglomeration in upstream and downstream industries is higher, but not where the agglomeration of firms in the same industry is higher. The results suggest trade liberalization has contributed to the decomposition of the manufacturing belt in and around Mexico City and the formation of broadly specialized industry centers located in northern Mexico, relatively close to the United States. The North American Free Trade Agreement is likely to reinforce these movements.

PD May 1994. **TI** Localization Economies, Vertical Organization, and Trade. **AA** University of Texas and National Bureau of Economic Research. **SR** National Bureau of Economic Research Working Paper: 4744; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PG** not available. **PR** $5.00. **JE** D43, F23, R32. **KW** Regional Production. External Economies. NAFTA.

AB This paper develops a model of regional production networks based on localization economies. I consider an industry with two activities: one with location-specific external economies, the other with constant returns. Under autarky, localization economies imply the formation of an industry center. Agglomeration drives up wages in the center, causing the constant returns activity to disperse to outlying regions. Trade recreates the regional production network on a global scale. I apply the model to data from the Mexican apparel industry. Estimation results on Mexico's pre- and post-trade regional apparel wage structure are consistent with localization economies. Implications for the North American Free Trade Agreement (NAFTA) are discussed.

Harrington, Winston

TI Accounting for Environmental Costs in Electric Utility Resource Supply Planning. **AU** Freeman, III, A. Myrick; Burtraw, Dallas; Harrington, Winston; Krupnick, Alan J.

TI Accounting for Environmental Costs in Electric Utility Resource Supply Planning. **AU** Freeman, III, A. Myrick; Burtraw, Dallas; Harrington, Winston; Krupnick, Alan J.

PD August 1992. **TI** The Value of Information and the Cost of Advocacy. **AU** Harrington, Winston; Macauley, Molly K. **AA** Resources for the Future. **SR** Resources for the Future, Quality of the Environment Division Discussion Paper: 92-20; Quality of the Environment Division, Resources for the Future, 1616 P Street, NW., Washington, DC 20036. **PG** 25. **PR** $3.00 prepaid (U.S. funds only). **JE** D81, K23. **KW** Rulemaking. Value of Information. Regulation.

AB In this paper we use a game-theoretic framework to consider the elements of conflict between the regulator and regulatee in supplying information to the regulatory rulemaking process. We compare the outcome of an advocacy process, modeled as a game in which we assume the regulator adopts a "citizen advocate" stance and compliance costs imposed on regulatees are external to the regulator's decision; and an efficient process, in which we posit decision-theoretic outcomes balancing marginal social costs and benefits. We discuss our model in the context of rulemaking for environmental damage abatement. Our principal conclusions are that participants in rulemaking procedures generally have insufficient incentive to collect the appropriate amount of information. Too little information is collected when information is inexpensive relative to damages and abatement costs. When information is more expensive, we can have the opposite result--that is, too much information is collected by the rulemaking procedure.

TI Cost-Effectiveness of Enhanced Motor Vehicle Inspection and Maintenance Programs. **AU** McConnell, Virginia; Harrington, Winston.

PD December 1992. **TI** Modeling In-Use Vehicle Emissions and the Effects of Inspection and Maintenance Programs. **AU** Harrington, Winston; McConnell, Virginia. **AA** Harrington: Resources for the Future. McConnell: University of Maryland and Resources for the Future. **SR** Resources for the Future, Quality of the Environment Division Discussion Paper: 93-02; Quality of the Environment Division, Resources for the Future, 1616 P Street, NW., Washington, DC 20036. **PG** 42. **PR** $3.00 prepaid (U.S. funds only). **JE** Q25, Q28. **KW** Mobile Sources. Emission Monitoring.

AB Different ways for modeling the impact of vehicle emission inspection and maintenance programs on fleet hydrocarbon emissions are examined. A dynamic model is developed for forecasting fleet emissions in which individual vehicle performance is modeled as a stochastic process and vehicle emissions are tracked over time. Emission inspection and repair are incorporated into the model, allowing for the stochastic aspects of both testing and repair. This model is compared to EPA's model for evaluating the impact of vehicle emissions inspection and maintenance. The importance of certain modeling assumptions on predicted emission reduction is examined, including the method of modeling vehicle emission deterioration, the accuracy of emission tests in identifying polluting vehicles, the impact of removing vehicles from effective testing due behavioral responses to the test, and repair effectiveness and duration.

TI Some Simple Analytics of Social Costing in a Regulated Industry. **AU** Burtraw, Dallas; Harrington, Winston; Freeman, III, A. Myrick; Krupnick, Alan J.

TI Determinants of Participation in Accelerated Vehicle Retirement Programs. **AU** Alberini, Anna; Harrington, Winston; McConnell, Virginia.

PD September 1993. **TI** Cost-Effectiveness of Remote Sensing of Vehicle Emissions. **AU** Harrington, Winston; McConnell, Virginia. **AA** Harrington: Resources for the Future. McConnell: University of Maryland. **SR** Resources for the Future, Quality of the Environment Division Discussion Paper: 93-24; Quality of the Environment Division, Resources for the Future, 1616 P Street, NW., Washington, DC 20036. **PG** 37. **PR** $3.00 prepaid (U.S. funds only). **JE** Q25,

Q28. **KW** Mobile Source Emissions. Remote Sensing. Air Quality. Cost-Effectiveness. Policy Analysis.
AB The costs and emissions reduction potential of policies that use remote sensing to identify high polluting vehicles are examined and compared to the alternative policy of mandatory emission inspection and maintenance (I&M) for all vehicles. A model of remote sensing of the vehicle fleet is developed and the important policy and technological parameters of a remote sensing program are identified. Factors expected to influence the cost and effectiveness of remote sensing are the ability of the sensors to correctly identify a high polluting vehicle, the proportion of the fleet covered by the remote sensing program and policy variables such as the average number of times each vehicle in the fleet will be sampled in a given period and the number of times a vehicle should "fail" the remote sensing test before it is sent for further testing or repair. We simulate the emission reduction and costs of various remote sensing programs, and examine the sensitivity of the results to variations in these parameters. The costs and emission reduction from the various remote sensing programs are compared to I&M programs which test all vehicles at varying intervals. We find that remote sensing appears to provide additional emission reduction at a relatively low cost. Raising cutpoints on the IM240 tailpipe test component of the Enhanced I&M program is found to be a cost effective policy for reducing emissions.

TI "Easy Riding" in the Commodity Provision of Nonexcludable Local Public Goods. **AU** Burtraw, Dallas; Harrington, Winston; Hood, H. Carter.

PD September 1993. **TI** Air and Water Quality Permitting in Lithuania. **AA** Resources for the Future. **SR** Resources for the Future, Quality of the Environment Division Discussion Paper: 93-26; Quality of the Environment Division, Resources for the Future, 1616 P Street, NW., Washington, DC 20036. **PG** 54. **PR** $3.00 prepaid (U.S. funds only). **JE** Q25, Q28. **KW** Lithuania. Marketable Permits. Air Quality. Water Quality.
AB This report describes current industrial air and water quality permitting policies in Lithuania and explores some alternatives that involve greater use of economic incentives. The Lithuanian system for regulating air and water pollutant discharges is what economists would call a "mixed" system of command-and-control (CAC) instruments (source-specific emission limitations) and economic incentives (specifically, emission fees and penalty payments for violations of the limitations). At present, the CAC aspects predominate. It is argued that a formal marketable emissions permit system could be grafted onto the present system in a straightforward way, by retaining the emission fees and penalties and making the source-specific limitations tradable. Some potential applications of this approach are discussed in the context of Panevezys, a small but heavily industrialized city in northern Lithuania.

TI The Impact of Uncertain Environmental Liability on Industrial Real Estate Development: Developing a Framework for Analysis. **AU** Boyd, James; Harrington, Winston; Macauley, Molly K.; Calhoon, Mary Elizabeth.

TI Estimating an Emissions Supply Function From Accelerated Vehicle Retirement Programs. **AU** Alberini, Anna; Harrington, Winston; McConnell, Virginia.

TI Reducing Emissions From Old Cars: The Economics of the Delaware Vehicle Retirement Program. **AU** Alberini, Anna; Edelstein, David; Harrington, Winston; McConnell, Virginia.

PD June 1994. **TI** Shifting Gears: New Directions for Cars and Clean Air. **AU** Harrington, Winston; Walls, Margaret A.; McConnell, Virginia. **AA** Harrington and Walls: Resources for the Future. McConnell: University of Maryland. **SR** Resources for the Future Discussion Paper: 94-26; Resources for the Future, 1616 P Street, N.W., Washington, D.C. 20036. **PG** 30. **PR** $3.00 (prepaid, U.S. funds only). **JE** Q25, Q28, R48. **KW** Air Pollution Control. Mobile Source Emissions. Cost-Effectiveness.
AB Despite efforts over the past twenty years to reduce emissions from motor vehicles, many regions of the country continue to fail to meet ozone air quality standards. In this paper we discuss the complicated relationships between vehicle emissions and ozone concentrations, the difficulties in estimating motor vehicle emissions, and most important from a policy standpoint, inefficiencies in past ways the federal government has regulated emissions from motor vehicles. We argue that the 1990 Clean Air Act Amendments, while recognizing many of the drawbacks of earlier policies, also have provisions that may impose high costs and result in little progress toward air quality goals. We show cost-effectiveness estimates for many of the policies that are currently under review by state and local governments as they determine ways to reduce emissions. Some of our most important findings are that both the California emissions standards for new vehicles and requirements to substitute alternative fuels for gasoline have low cost-effectiveness, while a policy that bases vehicle registration fees on emissions is likely to be highly cost-effective. We also find that allowing flexibility in state inspection and maintenance programs is preferable to requiring adherence to a very specific EPA-sanctioned approach. Our general conclusion is that some of the policies which mandate a particular technology, are uniformly applied, or fail to target the sources of highest emissions are not as cost-effective as those that are well targeted, allow some flexibility, and which give motorists incentives to change their behavior in ways that are consistent with air quality goals.

PD August 1994. **TI** Methods for Estimating the Economic Value of Human Health Benefits From Environmental Improvement. **AU** Harrington, Winston; Toman, Michael. **AA** Resources for the Future. **SR** Resources for the Future Discussion Paper: 94-41; Resources for the Future, 1616 P Street, N.W., Washington, D.C. 20036. **PG** 37. **PR** $6.00. **JE** Q25, I12. **KW** Nonmarket Valuation. Health.
AB This paper provides an overview of methods for estimating the value of health benefits from pollution reduction and discusses the applicability of these methods in the former socialist states of central and eastern Europe (CEE). The paper begins with a very brief exposition of the generally accepted theoretical approaches to health benefit estimation. This is followed by a discussion of these methods as applied to three environmental health problems in the U.S. context, followed by an example (one of the few extant) of health benefit estimation in a central European country.

Harrison Kenneth

TI The Benefits of Ambient Air Quality Improvements in Central and Eastern Europe: A Preliminary Assessment.

AU Krupnick, Alan J.; Harrison Kenneth; Nickell, Eric; Toman, Michael.

Harrison, Ann

TI The MFA Paradox: More Protection and More Trade?
AU Finger, J. Michael; Harrison, Ann.

Harrison, W. Jill

PD September 1993. **TI** Solving Applied General Equilibrium Models Represented as a Mixture of Linearized and Levels Equations. **AU** Harrison, W. Jill.; Pearson, K. R.; Powell, Alan A.; Small, E. John. **AA** Harrison and Powell: Monash University. Pearson: Monash University and La Trobe University. Small: Australian Bureau of Agricultural and Resource Economics. **SR** Centre of Policy Studies and the Impact Project Working Paper: IP-61; Centre of Policy Studies and the Impact Project, Monash University, Clayton, Victoria, Australia 3168. **PG** 20. **PR** not available. **JE** C68, D58. **KW** Levels Equations. Linearized Equations. General Equilibrium. Software.
AB General equilibrium models are usually represented as a system of levels equations (e.g. in North America) or a system of linearized equations (e.g. in Australia). Either representation can be used to obtain accurate solutions. General-purpose software is available in both cases--GAMS or MPS/GE for levels modellers and GEMPACK for linearizers. Some equations (notably accounting identities) are naturally expressed in the levels while others (especially behavioral equations) are naturally expressed in a linearized form. This paper describes the new GEMPACK facility for solving models represented as a mixture of levels and linearized equations and discusses the advantages to modellers of using such a representation.

PD September 1993. **TI** TABLO Input Files for the Stylized Johansen, Miniature ORANI and ORANI-F Models. **AU** Harrison, W. Jill; Small, E. John. **AA** Harrison: Monash University. Small: Australian Bureau of Agricultural and Resource Economics. **SR** Centre of Policy Studies and the Impact Project Working Paper: C11-01; Centre of Policy Studies and the Impact Project, Monash University, Clayton, Victoria, Australia 3168. **PG** 29. **PR** not available. **JE** C68, D58. **KW** Levels Equations. Linearized Equations. Software.
AB This document is a companion paper to "Solving Applied General Equilibrium Models Represented as a Mixture of Linearized and Levels Equations" by Harrison, Pearson, Powell and Small. The latter paper describes the new GEMPACK facility for solving models which contains both levels and linearized equations, and discusses the advantages of using a mixed representation. The discussion in IP-61 is illustrated by reference to three models: Stylized Johansen (STJ) (a tiny teaching model), Miniature ORANI (MO) (a somewhat larger miniature model), and ORANI-F (the standard forecasting version of ORANI).

Hassett, Kevin

PD June 1994. **TI** Investment With Uncertain Tax Policy: Does Random Tax Policy Discourage Investment? **AU** Hassett, Kevin; Metcalf, Gilbert E. **AA** Hassett: Board of Governors of the Federal Reserve System. Metcalf: Princeton University and National Bureau of Economic Research. **SR** National Bureau of Economic Research Working Paper: 4780; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PG** 30. **PR** $5.00. **JE** H25, L21, D24, D81, E22. **KW** Taxation. Uncertainty. Pricing. Investment.
AB In models with irreversible investment, increasing uncertainty about prices has been shown to increase the required rate of return (hurdle rate) and delay investment (e.g., Pindyck, 1988). One serious form of uncertainty faced by firms, a form that policy makers could conceivably control, is tax uncertainty. In this paper, we show that it does not follow from past work that tax policy uncertainty increases the expected hurdle price ratio and delays investment. This is because tax uncertainty has an unusual form that distinguishes it from price uncertainty: tax rates tend to remain constant for many years, and then change in large jumps. When tax policy follows a jump process, firms' expectations of the likelihood of the jump occurring have important effects on investment. Indeed, as we show below, while price uncertainty increases the hurdle rate and slows down investment, tax uncertainty has the opposite effect.

Head, Keith

PD June 1994. **TI** Agglomeration Benefits and Location Choice: Evidence From Japanese Manufacturing Investment in the United States. **AU** Head, Keith; Swenson, Deborah; Ries, John. **AA** Head and Ries: University of British Columbia. Swenson: University of California, Davis and National Bureau of Economic Research. **SR** National Bureau of Economic Research Working Paper: 4767; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PG** 26. **PR** $5.00. **JE** L11, D21, D62. **KW** Agglomeration Benefits. Externality. Firm Location.
AB Recent theories of economic geography suggest that firms in the same industry may be drawn to the same locations because proximity generates positive externalities or "agglomeration effects." Under this view, chance events and government inducements can have a lasting influence on the geographical pattern of manufacturing. However, most evidence on the causes and magnitude of industry localization has been based on stories, rather than statistics. This paper examines the location choices of 751 Japanese manufacturing plants built in the U.S. since 1980. Conditional logit estimates support the hypothesis that industry-level agglomeration benefits play an important role in location decisions.

Hendershott, Patric H.

TI Bubbles in Metropolitan Housing Markets.
AU Abraham, Jesse M.; Hendershott, Patric H.

PD June 1994. **TI** Rental Adjustment and Valuation of Real Estate in Overbuilt Markets: Fundamental Versus Reported Office Market Values in Sydney Australia. **AA** Ohio State University and National Bureau of Economic Research. **SR** National Bureau of Economic Research Working Paper: 4775; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PG** 20. **PR** $5.00. **JE** L60, D43. **KW** Real Estate. Rental Property.
AB Real estate markets are periodically plagued by excess supply, rent concessions and few arms-length transactions. During such periods, valuation is problematic. The model presented here requires the forecasts of future vacancy rates, and equilibrium and actual rental rates. Vacancy rate forecasts of market participants are obtained, the equilibrium rental rate is specified as the cost of capital, and a rental adjustment

equation is estimated in which real effective Sydney office market rents are related to gaps between both natural and actual vacancy rates and equilibrium and actual real effective rental rates. Value estimates (relative to replacement cost) for 1992, including that for above-market leases, are computed and the sensitivity to key assumptions is shown. Value/replacement-cost calculations are then made for the entire 1985-92 period and contrasted with comparable estimates implicit in data published by BOMA and JLW, two prominent Australian real estate sources. Lastly, the ratios of real effective rents to equilibrium rents and value to replacement cost are projected for the 1993-2006 period.

Henderson, Vernon

PD May 1994. **TI** Externalities and Industrial Development. **AA** Brown University and National Bureau of Economic Research. **SR** National Bureau of Economic Research Working Paper: 4730; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PG** 31. **PR** $5.00. **JE** D62, C23, L11, L61. **KW** Externalities. Panel Data. Industrial Development.

AB Using a panel data set of county-level employment in machinery, electrical machinery, primary metals, transportation, and instruments, this paper analyzes the role of dynamic externalities for individual industries. Key issues examined include the role of externalities from own industry concentration (localization, or MAR externalities) versus the role of externalities from overall diversity of the local environment (urbanization, or Jacobs externalities). In contrast to previous studies, use of panel data allows us to separate these effects out from fixed/random effects influencing industries over time. Panel data also allow us to estimate a lag structure to externality variables, indicating how long history matters and the time pattern of effects. A particular issue concerns whether conditions from the immediate year or so prior to the current have the biggest impact on current employment, or periods several years prior have the largest impact. For all industries both localization and urbanization effects are important. For traditional industries most effects die out after four or five years, but for high tech industries effects can persist longer. The biggest effects are typically from conditions of three to four years ago, in the county and metropolitan area.

Hindy, Ayman

PD April 1993. **TI** Dynamic Price Formation in a Futures Market via Double Auctions. **AA** Stanford University. **SR** Stanford Graduate School of Business Research Paper: 1256; Graduate School of Business, Stanford University, Stanford, CA 94305-5015. **PG** 30. **PR** no charge. **JE** G13, G12, C78. **KW** Futures Markets. Double Auctions. Anonymous Games.

AB We report an exploratory study of the process of price formation in a speculative market in the absence of liquidity traders. Traders exchange a futures contract because they interpret information differently. We formulate trading as a sequence of anonymous double auctions and introduce a notion of bounded rationality in which traders use approximate models of market response in forming their bids. We prove existence of a perfect equilibrium in the sequential anonymous auctions game, and show that the equilibrium has a "no-regret" property. After learning the market price, a trader regrets neither the bid that he made nor the position that he holds. We show that trading volume is related to changes in the distribution of information in the economy. We also show that volume and expected change in price are related to two different attributes of the pattern of private information flow. Fundamentally, no particular relationship between the time series of these variables is always valid for all futures contracts. This point is emphasized by an example.

PD August 1993. **TI** Numerical Analysis of a Free-Boundary Singular Control Problem in Financial Economics. **AU** Hindy, Ayman; Huang, Chi-fu; Zhu, Hang. **AA** Hindy: Stanford University. Huang: Massachusetts Institute of Technology. Zhu: CitiBank. **SR** Stanford Graduate School of Business Research Paper: 1267; Graduate School of Business, Stanford University, Stanford, CA 94305-5015. **PG** 37. **PR** no charge. **JE** G11, G13, C61. **KW** Free-Boundary. Singular Control. Markov-Chain Approximation. Viscosity Solution.

AB We analyze a numerical scheme for solving the consumption and investment allocation problem studied in a companion paper by Hindy, Huang, and Zhu (1993). For this problem, Bellman's equation is a differential inequality involving a second order partial differential equation with gradient constraints. The solution involves finding a free-boundary at which consumption occurs. We prove that the value function is the unique viscosity solution to Bellman's equation. We describe a numerical analysis technique based on Markov chain approximation schemes. We approximate the original continuous time problem by a sequence of discrete parameter Markov chains control problems. We prove that the value functions and the optimal investment policies in the sequence of the approximating control problems converge to the value function and the optimal investment policy, if it exists, of the original problem. We also show that the optimal consumption and abstinence regions in the sequence of approximating problems converge to those in the original problem.

PD September 1993. **TI** Optimal Consumption and Portfolio Rules with Durability and Habit Formation. **AU** Hindy, Ayman; Huang, Chi-fu; Zhu, Hang. **AA** Hindy: Stanford University. Huang: Massachusetts Institute of Technology. Zhu: CitiBank. **SR** Stanford Graduate School of Business Research Paper: 1266; Graduate School of Business, Stanford University, Stanford, CA 94305-5015. **PG** 50. **PR** no charge. **JE** G11, G13, D11. **KW** Habit-Formation. Free-Boundary. Singular Control. Viscosity Solutions.

AB We study a model of consumption choice and portfolio allocation that captures, in two different interpretations, the combined effect of durability of consumption goods and habit formation over service flows from those goods. In a third interpretation, the model captures the idea of a dual purpose commodity. The optimal allocation problem is from the class of free boundary singular control problems. We discuss, formally, necessary and sufficient conditions for a consumption and portfolio policy to be optimal. We also introduce a numerical technique based on approximating the original program by a sequence of discrete parameter Markov chain control problems. We provide convergence results of the value function, the optimal investment policy, and the optimal consumption regions in the approximating discrete control problems to those in the original continuous time dynamic program. We construct numerically the consumption boundary that divides the state space into two regions--one of immediate consumption and the other of abstinence. We show that both the wealth required to start consuming and the optimal fraction of wealth invested in the risky asset are cyclical functions in both the stock of the durable good and the standard of living. This is due to the interaction between the durability and habit formation effects. We also study the effect of the cyclical investment behavior on the equilibrium risk premium in a representative consumer economy.

Holtz-Eakin, Douglas

PD June 1994. **TI** Technological Linkages, Market Structure, and Optimum Production Policies. **AU** Holtz-Eakin, Douglas; Lovely, Mary E. **AA** Holtz-Eakin: Syracuse University and National Bureau of Economic Research. Lovely: Syracuse University. **SR** National Bureau of Economic Research Working Paper: 4779; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PG** 19. **PR** $5.00. **JE** L52, L11, O31. **KW** Industrial Policy. Market Structure. Technology.

AB There has been an increased interest in the efficacy of industrial policy. We show that policy design for vertically-related industries hinges on the nature of market interactions as well as technological linkages. Using a model in which final-good producers realize productivity gains from increasing domestic specialization of intermediate processes, we find no theoretical basis for presuming that an imperfectly competitive intermediates sector restricts output below the optimal level or that the market produces too many varieties. The direction of distortion depends on the relationship between the extent of the external economy and the market power of individual intermediates producers. Optimal corrective policies require two instruments: an output subsidy and a lump-sum tax or subsidy. If only one instrument is available, it may be optimal to tax instead of subsidize the externality-generating activity.

Hood, H. Carter

TI The Distributional and Environmental Implications of an Increase in the Federal Gasoline Tax. **AU** Krupnick, Alan J.; Walls, Margaret A.; Hood, H. Carter.

TI Estimating the Demands for Vehicle-Miles-Traveled Using Household Survey Data: Results From the 1990 Nationwide Personal Transportation Survey. **AU** Walls, Margaret A.; Krupnick, Alan J.; Hood, H. Carter.

TI "Easy Riding" in the Commodity Provision of Nonexcludable Local Public Goods. **AU** Burtraw, Dallas; Harrington, Winston; Hood, H. Carter.

Hornik, Kurt

TI MOSUM Tests for Parameter Constancy. **AU** Chu, Chia-Shang James; Hornik, Kurt; Kuan, Chung-Ming.

Horridge, J. Mark

PD December 1993. **TI** Water Pricing and Investment in Melbourne: General Equilibrium Analysis With Uncertain Streamflow. **AU** Horridge, J. Mark; Dixon, Peter B.; Rimmer, Maureen T. **AA** Monash University. **SR** Centre of Policy Studies and the Impact Project Working Paper: IP-63; Centre of Policy Studies and the Impact Project, Monash University, Clayton, Victoria, Australia 3168. **PG** 18. **PR** not available. **JE** D58, C68, H21. **KW** Water. Pricing. Investment. General Equilibrium.

AB We describe the theory, computation, and results of a multiperiod general equilibrium model designed to assist an urban water authority in its pricing and investment decisions. The model includes gestation periods in the creation of dams, main sewers, and treatment plants. It allows for lumpy capital items and recognizes cost differences in the provision of services in peak and non-peak times. Its general equilibrium framework is convenient for handling links between the water authority and the rest of the economy, especially the housing sector. We have used two computational approaches. In the first, we reformulate the model as a single-entity optimization problem and then apply a linear programming package. We have found that a better approach is to apply Newton-Raphson methods to a formulation of the model as a set of equations depicting purely competitive behavior in all productive activities. A special feature of this paper is an integration of the model's results, obtained under the assumption of certainty, with data on weather-induced variations in streamflow and demand. Using Monte Carlo techniques we assess the risks of water shortages associated with the investment and pricing strategies that our model indicates.

Hsiao, Cheng

TI Estimating Consumer Preferences Using Market Data--An Application to U.S. Automobile Demand. **AU** Arguea, Nestor M.; Hsiao, Cheng; Taylor, Grant.

PD 1993. **TI** A Framework for Regional Modeling and Impact Analysis--An Analysis of the Demand for Electricity by Large Municipalities in Ontario, Canada. **AU** Hsiao, Cheng; Mountain, Dean C. **AA** Hsiao: University of Southern California. Mountain: McMaster University. **SR** University of Southern California Arthur Andersen Working Paper Series: 9317; Department of Economics, University of Southern California, University Park, Los Angeles, CA 90089-0253. **PG** 23. **PR** no charge. **JE** C11, D12, L94, Q41. **KW** Random Effects. Fixed Effects. Regional Modeling. Energy Demand.

AB We propose a mixed fixed and random coefficients framework for regional modeling. The framework allows the presence of both the regional specific effects and commonality of responses across regions. Bayes solutions for estimating parameters of interest and for generating predictions are derived. Within a Bayesian framework a predictive density approach to evaluate the impact of changes is suggested. We apply the methodology to evaluate the impact of new rate structures on Ontario regional demand for electricity.

Huang, Chi-fu

TI Numerical Analysis of a Free-Boundary Singular Control Problem in Financial Economics. **AU** Hindy, Ayman; Huang, Chi-fu; Zhu, Hang.

TI Optimal Consumption and Portfolio Rules with Durability and Habit Formation. **AU** Hindy, Ayman; Huang, Chi-fu; Zhu, Hang.

Huang, Ju-Chin

TI Can Markets Value Air Quality? A Meta-Analysis of Hedonic Property Value Models. **AU** Smith, V. Kerry; Huang, Ju-Chin.

Hubbard, R. Glenn

TI The Tax Sensitivity of Foreign Direct Investment: Evidence From Firm-Level Panel Data. **AU** Cummins, Jason G.; Hubbard, R. Glenn.

PD April 1994. TI Executive Pay and Performance: Evidence From the U.S. Banking Industry. AU Hubbard, R. Glenn; Palia, Darius. AA Hubbard: Columbia University and National Bureau of Economic Research. Palia: Columbia University. SR National Bureau of Economic Research Working Paper: 4704; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. PG 16. PR $5.00. JE J33, J44, G21, G28. KW Executive Pay. Worker Performance. Compensation.

AB This paper examines an effect of deregulating the market for corporate control on CEO compensation in the banking industry. Given that each state's banking regulation defines the competitiveness of its corporate control market, we examine the effect of a state's interstate banking regulation on the level and structure of bank CEO compensation. Using panel data on 147 banks over the decade of the 1980's, we find evidence supporting the hypothesis that competitive corporate control markets (i.e., where interstate banking is permitted) require talented managers whose levels of compensation are higher. We also find that the compensation-performance relationship is stronger than for managers in markets where interstate banking is not permitted. Further, CEO turnover increases substantially after deregulation, as does the proportion in performance-related compensation. These results suggest strong evidence of a managerial talent market--that is, one which matches the level and structure of compensation with the competitiveness of the banking environment.

Huddart, Steven

PD November 1993. TI Inventory Rules, Taxation and Institutions' Trading Decisions. AU Huddart, Steven; Narayanan, V. G. AA Stanford University. SR Stanford Graduate School of Business Research Paper: 1274; Graduate School of Business, Stanford University, Stanford, CA 94305-5015. PG 43. PR no charge. JE G11, G23, G24, H25. KW HIFO. LIFO. Investment. Mutual Fund. Insurance. Portfolio Choice.

AB This paper examines whether the trading decisions of institutional investors can be explained in part by the effects of taxation on portfolio returns. The trading strategy that maximizes benefits to owners in the absence of taxes on capital gains differs from the optimal strategy in the presence of taxes. In particular, it may be better to hold on to an appreciated security in order to defer the payment of capital gains tax. We find that taxable entities (or entities that manage portfolios on behalf of persons who are taxable entities) are 26% less likely to sell securities that trigger large capital gains than securities that trigger no capital gains. Also, tax considerations seem to weigh more heavily in trading decisions later in the fiscal year. The decision to sell a particular security appears to depend on the cumulative gain or loss realized by the institution so far in the tax year. Tax-exempt institutional investors (namely, private foundations, universities, and pension funds) do not exhibit these tendencies. Surprisingly, all institutions are less likely to sell securities that would trigger a large loss. The inventory flow assumption adopted for tax purposes affects the size of the gain or loss realized in the sale of a block of stock. Consistent with tax planning, a HIFO (highest in first out) inventory rule is most significant for taxable institutions; a FIFO inventory rule is most significant for non-taxable institutions. We provide some evidence on the effect on realized gains of the two different inventory methods.

Hummels, David L

PD December 1993. TI Congestion and Taxation in Lumpy Countries. AU Hummels, David L; Courant, Paul N.; Deardorff, Alan V. AA University of Michigan. SR University of Michigan Research Forum on International Economics Discussion Paper: 348; Professor Robert M. Stern, Institute of Public Policy Studies, University of Michigan, 440 Lorch Hall, Ann Arbor, MI 48109-1220. PG 28. PR $4 (U.S. Funds) for shipping and handling (checks should be payable to: IPPS. Enclose with order). JE D62, H73. KW Congestion. Amenities. Welfare Economics.

AB The paper examines the welfare economics of amenities in a lumpy country, where congestible amenities exist in separate geographic regions of a country. We analyze taxes on congestible amenities in a model with one mobile factor (labor) and one immobile factor (land). We investigate optimal congestion taxes first with one, and then with two traded goods, and we examine how optimality rules differ from the perspectives of a federal planner and of a regional developer. In the one-sector model there is a trade-off between maximizing the level of the amenity and maximizing national output, and regional developers will not normally attain the same optimum as a national-welfare maximizing federal planner. With more traded goods, however, the economics of factor-price equalization can reverse these conclusions.

Hutchinson, James M.

PD April 1994. TI A Nonparametric Approach to Pricing and Hedging Derivative Securities Via Learning Networks. AU Hutchinson, James M.; Poggio, Tomaso; Lo, Andrew W. AA Hutchinson: PHZ Partners, Cambridge, Massachusetts. Poggio: Massachusetts Institute of Technology. Lo: Massachusetts Institute of Technology and National Bureau of Economic Research. SR National Bureau of Economic Research Working Paper: 4718; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. PG 32. PR $5.00. JE G12, G13, C45, C14. KW Derivative Securities. Neural Networks. Black-Scholes Formula.

AB We propose a nonparametric method for estimating the pricing formula of a derivative asset using learning networks. Although not a substitute for the more traditional arbitrage-based pricing formulas, network pricing formulas may be more accurate and computationally more efficient alternatives when the underlying asset's price dynamics are unknown, or when the pricing equation associated with the no-arbitrage condition cannot be solved analytically. To assess the potential value of network pricing formulas, we simulate Black-Scholes option prices and show that learning networks can recover the Black-Scholes formula from a two-year training set of daily options prices, and that the resulting network formula can be used successfully to both price and delta-hedge options out-of-sample. For comparison, we estimate models using four popular methods: ordinary least squares, radial basis function networks, multilayer perceptron networks, and projection pursuit. To illustrate the practical relevance of our network pricing approach, we apply it to the pricing and delta-hedging of S&P 500 futures options from 1987 to 1991.

Hyman, Jeffrey B.

PD April 1993. TI Dollars and Sense Under the Endangered Species Act: Incorporating Diverse Viewpoints in Recovery Planning for Pacific Northwest Salmon.

AU Hyman, Jeffrey B.; Wernstedt, Kris; Paulsen, Charles M. **AA** Resources for the Future. **SR** Resources for the Future, Quality of the Environment Division Discussion Paper: 93-11; Quality of the Environment Division, Resources for the Future, 1616 P Street, NW., Washington, DC 20036. **PG** 30. **PR** $3.00 prepaid (U.S. funds only). **JE** D61, Q22, A12. **KW** Columbia River. Endangered Salmon. Interdisciplinary Research. Cost-Effectiveness.

AB This paper describes an approach to interdisciplinary research in support of endangered species recovery that incorporates diverse values and concerns. We developed the approach in the context of recovery planning for Pacific Northwest salmon listed under the federal Endangered Species Act. Our search for such an approach was motivated by our perception that our cost-effectiveness framework to analyze alternative strategies had limited influence and relevance in the public forum, partially because it did not reflect the diversity of value systems present in the public debate regarding salmon. Because any analytical framework is based on value-laden assumptions and methods, we suggest an approach that is value-aware--we construct multiple worldviews from a number of value dimensions and develop an interdisciplinary research framework for each worldview. Such an approach may be useful for dispute resolution techniques.

Ingberman, Daniel E.

TI Insolvency, Product and Environmental Risk, and Rule Choice: A Market Equilibrium Analysis of Non-Compensatory Damages and Financial Responsibility. **AU** Boyd, James; Ingberman, Daniel E.

TI "Relative Liability:" Economic Implications of the State of the Art and Customary Practice Defenses Against Liability. **AU** Boyd, James; Ingberman, Daniel E.

Irwin, Douglas A.

PD May 1994. **TI** Trade Politics and the Semiconductor Industry. **AA** University of Chicago. **SR** National Bureau of Economic Research Working Paper: 4745; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PG** 72. **PR** $5.00. **JE** L61, F14, E62. **KW** Semiconductor Industry. Protectionism. Dumping.

AB A coalition of well-organized semiconductor producers along with compliant government agencies (USTR and the Commerce Department) brought about a 1986 trade agreement in which the United States forced Japan to end the "dumping" of semiconductors in all world markets and to help secure 20 percent of the Japanese semiconductor market for foreign firms within five years. The antidumping provisions of the 1986 agreement, which later proved to be partly GATT-illegal, resulted in such steep price rises for certain semiconductors that downstream user industries (primarily computer systems manufacturers) forced the U.S. government to remove those provision in the 1991 renegotiation of the agreement. The equally controversial 20 percent market share provision--based on circumstantial evidence that the Japanese market was closed--provided "affirmative action" for the industry in its efforts to sell more in Japan, but has been criticized as constituting "export protectionism." This paper examines how the U.S. semiconductor industry became the beneficiary of this unique and unprecedented sectoral trade agreement by analyzing the political and economic forces leading up to the 1986 accord and shaping subsequent events.

Jackson, John

PD March 1994. **TI** Testimony Prepared for the U.S. Senate Finance Committee Hearing, March 23, 1994, on Uruguay Round Legislation. **AA** University of Michigan. **SR** University of Michigan Research Forum on International Economics Discussion Paper: 353; Professor Robert M. Stern, Institute of Public Policy Studies, University of Michigan, 440 Lorch Hall, Ann Arbor, MI 48109-1220. **PG** 10. **PR** $4 (U.S. Funds) for shipping and handling (checks should be payable to: IPPS. Enclose with order). **JE** F02, F13. **KW** International Trade. Economic Relations. GATT.

AB not available.

TI Market Access in the Uruguay Round and Beyond; Comment on Deardorff; Strengthened Dispute Settlement Procedures in the Uruguay Round. **AU** Deardorff, Alan V.; Stern, Robert M.; Jackson, John.

Jaffe, Adam B.

PD September 1993. **TI** The Energy Paradox and the Diffusion of Conservation Technology. **AU** Jaffe, Adam B.; Stavins, Robert N. **AA** Jaffe: Harvard University and National Bureau of Economic Research. Stavins: Harvard University. **SR** Resources for the Future, Quality of the Environment Division Discussion Paper: 93-23; Quality of the Environment Division, Resources for the Future, 1616 P Street, NW., Washington, DC 20036. **PG** 47. **PR** $3.00 prepaid (U.S. funds only). **JE** Q48, O33. **KW** Energy Efficiency. Conservation. Technology Diffusion.

AB We develop a framework for thinking about the "paradox" of very gradual diffusion of apparently cost-effective energy-conservation technologies. Our analysis provides some keys to understanding why this technology-diffusion process is gradual, and focuses attention on the factors that cause this to be the case, including those associated with potential market failures--information problems, principal/agent slippage, and unobserved costs--and those explanations that do not represent market failures--private information costs, high discount rates, and heterogeneity among potential adopters. Additionally, our analysis indicates how alternative policy instruments--both economic incentives and direct regulations--can hasten the diffusion of energy-conserving technologies.

PD January 1994. **TI** Prices, Regulation, and Energy Conservation. **AU** Jaffe, Adam B.; Stavins, Robert N. **AA** Harvard University. **SR** Resources for the Future Discussion Paper: 94-07; Resources for the Future, 1616 P Street, N.W., Washington, D.C. 20036. **PG** 26. **PR** $3.00 (prepaid, U.S. funds only). **JE** Q48, O33. **KW** Energy Efficiency. Conservation. Technology Diffusion.

AB The ongoing debate about the so-called paradox of gradual diffusion of apparently cost-effective energy-conservation technologies is becoming more relevant in the context of concerns about carbon dioxide emissions and global climate change policy. We incorporate major explanations of the paradox in a model of the decision problem faced by home builders regarding the adoption of specific energy-conserving attributes in new single-family residences. We estimate the parameters of the model with state-level panel data from a national survey for the period 1979-1988. Allowing for unobserved state-specific effects, we find very small dynamic feedback effects from past adoption of high efficiency levels, thus providing no evidence of large adoption externalities. Although we find that state building codes had no discernible impact on technology adoption, we find that builders responded significantly to economic incentives in the form of changes in costs of technology adoption and changes in energy prices. Interestingly, the apparent responsiveness to changes in technology costs is significantly larger than the responsiveness to changes in energy prices, which is inconsistent with standard benefit-cost analysis. Thus, in a model that incorporates major explanations of the observed energy paradox, we are left with a new version of the puzzle.

PD January 1994. **TI** Environmental Regulation and International Competitiveness: What Does Evidence Tell Us? **AU** Jaffe, Adam B.; Peterson, Steven R.; Portney, Paul R.; Stavins, Robert N. **AA** Jaffe and Stavins: Harvard University. Peterson: Economics Resource Group. Portney: Resources for the Future. **SR** Resources for the Future Discussion Paper: 94-08; Resources for the Future, 1616 P Street, N.W., Washington, D.C. 20036. **PG** 42. **PR** $3.00 (prepaid, U.S. funds only). **JE** F21, L51, Q21, Q28. **KW** Regulation. Trade. Competitiveness.
AB There is a heated debated among policy makers about the relationship between domestic environmental regulation and international competitiveness. The conventional wisdom among economists is that environmental regulations impose significant costs, slow productivity growth, and thereby hinder the ability of U.S. firms to compete in international markets. Under a more recent, revisionist view, environmental regulations are seen as being not only benign in their impacts on international competitiveness, but actually a net positive force driving private firms and the economy as a whole to become more efficient and competitive in international markets. We assess the evidence and find that there is little to document the view that environmental regulations have had a measurably adverse effect on competitiveness.

PD April 1994. **TI** Market Barriers, Market Failures, and the Energy Efficiency Gap. **AU** Jaffe, Adam B.; Stavins, Robert N. **AA** Harvard University. **SR** Resources for the Future Discussion Paper: 94-30; Resources for the Future, 1616 P Street, N.W., Washington, D.C. 20036. **PG** 19. **PR** $3.00 (prepaid, U.S. funds only). **JE** Q48, O33. **KW** Energy Efficiency Gap. Discounting. Social Optimum.
AB As renewed attention has been given by policy makers to energy conservation issues, it has frequently been asserted that there exists an "energy efficiency gap" between actual and optimal energy use. The critical question is how to define the optimal level of energy efficiency. This paper seeks to disentangle some confusing strands of argument that are frequently brought to bear on this question, by identifying the major conceptual issues that determine the set of feasible answers. We identify five separate and distinct notions of "optimality": the economists' economic potential, the technologists' economic potential, hypothetical potential, the narrow social optimum, and the true social optimum. Each of these has associated with it a corresponding definition of the energy efficiency gap. Our analysis demonstrates that necessary preconditions for identifying the right measure of the energy efficiency gap include understanding and disentangling market-failure and non-market-failure explanations for the gradual diffusion of energy-efficient technologies.

TI The Span of the Effect of R&D in the Firm and Industry. **AU** Adams, James D.; Jaffe, Adam B.

PD June 1994. **TI** Environmental Regulation and Technology Diffusion: The Effects of Alternative Policy Instruments. **AU** Jaffe, Adam B.; Stavins, Robert N. **AA** Jaffe: Brandeis University. Stavins: Harvard University. **SR** Resources for the Future Discussion Paper: 94-38; Resources for the Future, 1616 P Street, N.W., Washington, D.C. 20036. **PG** 32. **PR** $6.00. **JE** Q28, L51, Q48. **KW** Dynamic Efficiency. Environmental Policy Instruments.
AB This paper presents a framework for comparing empirically the effects of alternative environmental policy instruments on the diffusion of new technology. We suggest that "market-based" and "command-and-control" approaches can be quantitatively compared by estimating the economic penalty that firms, through their actions, reveal to be associated with violation of command-and-control standards. In the context of concerns about global climate change, we apply this approach to an empirical examination of the likely effects of pigouvian taxes, technology adoption subsidies, and technology standards. In particular, we employ state-level data on the diffusion of thermal insulation in new home construction between 1979 and 1988, comparing the effects of energy prices, insulation cost, and state-level building codes.

Jovanovic, Boyan

PD May 1994. **TI** The Bayesian Foundations of Learning by Doing. **AU** Jovanovic, Boyan; Nyarko, Yaw. **AA** Jovanovic: New York University and National Bureau of Economic Research. Nyarko: New York University. **SR** National Bureau of Economic Research Working Paper: 4739; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PG** 61. **PR** $5.00. **JE** C11, D11, O33. **KW** Bayesian Analysis. Learning by Doing. Human Capital.
AB This paper explores a one-agent Bayesian model of learning by doing and technological choice. To produce output, the agent can choose among various technologies. The beneficial effects of learning by doing are bounded on each technology, and so long-run growth in output can take place only if the agent repeatedly switches to better technologies. As the agent repeatedly uses a technology, he learns about its unknown parameters, and this accumulated expertise is a form of human capital. But when the agent switches technologies, part of this human capital is lost. It is this loss of human capital that may prevent the agent from moving up the quality ladder of technologies as quickly as he can, since the loss is greater the bigger is the technological leap. We analyze the global dynamics. We find that a human-capital-rich agent may find it optimal to avoid any switching of technologies, and therefore to experience no long-run growth. On the other hand, a human-capital-poor agent, who because of his lack of skill is not so attached to any particular technology, can find it optimal to switch technologies repeatedly, and therefore enjoy long-run growth in output. Thus the model can give rise to overtaking.

Kahn, Lawrence M.

TI The Impact of Wage Structure on Trends in U.S. Gender Wage Differentials: 1975-87. **AU** Blau, Francine D.; Kahn, Lawrence M.

Kalat, Karen

TI Hoarding and Hibernation in Response to the Onset of Winter. **AU** Salant, Stephen W.; Kalat, Karen; Wheatcroft, Ana.

Kalt, Joseph P.

PD May 1994. **TI** Precedent and Legal Argument in U.S. Trade Policy: Do They Matter to the Political Economy of the Lumber Dispute? **AA** Harvard University. **SR** National Bureau of Economic Research Working Paper: 4749; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PG** 35. **PR** $5.00. **JE** L73, K23, K33. **KW** Lumber Industry. Canada. Economic Law.

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

Kandel, Shmuel

PD April 1994. **TI** Portfolio Inefficiency and the Cross-Section of Expected Returns. **AU** Kandel, Shmuel; Stambaugh, Robert F. **AA** Kandel: University of Pennsylvania. Stambaugh: University of Pennsylvania and National Bureau of Economic Research. **SR** National Bureau of Economic Research Working Paper: 4702; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PG** 12. **PR** $5.00. **JE** G11, G12. **KW** Expected Returns. Portfolio Choice. Beta.

AB A plot of expected returns versus betas obeys virtually no relation to an inefficient index portfolio's mean-variance location. If the index portfolio is inefficient, then the coefficients and R-squared from an ordinary-least-squares regression of expected returns on betas can equal essentially any desired values. The mean-variance location of the index does determine the properties of a cross-sectional mean-beta relation fitted by generalized least squares (GLS). As the index portfolio moves closer to exact efficiency, the GLS mean-beta relation moves closer to the exact linear relation corresponding to an efficient portfolio with the same variance. The goodness-of-fit for the GLS regression is the index portfolio's squared relative efficiency, which measures closeness to efficiency in mean-variance space.

Kane, Edward J.

PD April 1994. **TI** How Much Did Capital Forbearance Add to the Tab for the FSLIC Mess? **AU** Kane, Edward J.; Yu, Min-Teh. **AA** Kane: Boston College and National Bureau of Economic Research. Yu: National Central University. **SR** National Bureau of Economic Research Working Paper: 4701; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PG** 16. **PR** $5.00. **JE** G21, G28. **KW** FSLIC. Financial Regulation. Capital Forbearance.

AB Federal regulators characterize capital forbearance as an efficient way of nursing weak banks and thrifts back to health. An alternative hypothesis is that forbearance reflects inefficient costs of agency that fall on federal deposit-insurance funds. Divergences between regulatory measures of a troubled institution's net worth and GAAP and market-value measures relieved FSLIC from having to book de facto encumbrances that industry losses were imposing on the FSLIC fund. This omission protected the reputations and careers of top officials. Delays in insolvency resolution intensified FSLIC exposure to future losses by distorting management and risk-taking incentives and squeezing profit margins for surviving thrifts. Besides accumulating projects with negative net present value, delay hurt FSLIC indirectly by undermining the average profitability of the industry it insured. This paper seeks to measure the opportunity cost of FSLIC forbearance during 1985-1989. Although the opportunity cost of delay did not increase every year, it did increase on average. Had opportunity-cost standards of capital adequacy been routinely enforced, FSLIC guarantees would not have displaced private capital on a mammoth scale, surviving members of the industry would have proven more profitable, and investments in commercial real estate would have been restrained.

Kanninen, Barbara J.

PD September 1993. **TI** Bias in Discrete Response Contingent Valuation. **AA** Resources for the Future. **SR** Resources for the Future, Quality of the Environment Division Discussion Paper: 93-27; Quality of the Environment Division, Resources for the Future, 1616 P Street, NW., Washington, DC 20036. **PG** 23. **PR** $3.00 prepaid (U.S. funds only). **JE** C25, C93. **KW** Logit. Bias. Outliers. Discrete Response. Contingent Valuation.

AB The empirical literature on discrete response contingent valuation has found that seemingly innocuous changes in the statistical models estimated result in significantly different point estimates of willingness-to-pay. This paper hypothesizes and examines several potential explanations for these results. First it investigates and compares the biases inherent in single-bounded and double-bounded maximum likelihood estimation procedures and how they react to various bid designs and sample sizes. Then it examines the presence and identification of "outliers" in binary choice data and how these outliers influence estimation. Finally, it presents an alternative approach to addressing the issue of outliers which explicitly acknowledges the possibility of upwardly biased response probabilities.

TI Random-Effect Models of Willingness to Pay Using Discrete Response CV Survey Data. **AU** Alberini, Anna; Kanninen, Barbara J.; Carson, Richard T.

PD June 1994. **TI** Intelligent Transportation Systems: An Economic and Environmental Policy Assessment. **AA** Resources for the Future. **SR** Resources for the Future Discussion Paper: 94-35; Resources for the Future, 1616 P Street, N.W., Washington, D.C. 20036. **PG** 20. **PR** $3.00 (prepaid, U.S. funds only). **JE** R41, R42. **KW** Transportation Systems. Technology. Social Cost. Congestion.
AB This paper considers the environmental impacts of ITS from an economic perspective. It discusses the potential public and private benefits of ITS technologies and the role of the public sector in the development of Advanced Traveler Information Systems, Automated Highway Systems, and Intelligent Transit Systems. It concludes that some ITS technologies can promote technological efficiency but that economic efficiency requires the use of policies that target the externality costs associated with automobile use.

Kaoru, Yoshiaki
PD December 1993. **TI** Using Random Utility Models to Estimate the Recreational Value of Estuarine Resources. **AU** Kaoru, Yoshiaki; Smith, V. Kerry; Liu, Jin Long. **AA** Kaoru: Woods Hole Oceanographic Institution. Smith and Liu: North Carolina State University. **SR** Resources for the Future Discussion Paper: 94-04; Resources for the Future, 1616 P Street, N.W., Washington, D.C. 20036. **PG** 29. **PR** $3.00 (prepaid, U.S. funds only). **JE** Q26, Q22, Q21. **KW** Random Utility Model. Estuarine Resources. Marine Recreation.
AB This paper describes an integrated model using a household production framework to link measures of nonpoint source pollution to fishing quality and a random utility model to describe how that quality influences the decisions of sport fishing parties in the Albemarle-Pamlico estuarine system in North Carolina. The results provide clear support for using a model that evaluates the effects of pollution on the activities and decisions associated with the fishing activity once a trip is taken. Site selection decisions are then conditioned on the anticipated quality of fishing trips at each site. The framework also has the advantage of linking the spatial, technical, and economic information required to evaluate the management plans required for estuaries under the National Estuarine Program.

Kaplan, Steven N.
PD April 1994. **TI** The Valuation of Cash Flow Forecasts: An Empirical Analysis. **AU** Kaplan, Steven N.; Ruback, Richard S. **AA** Kaplan: University of Chicago and National Bureau of Economic Research. Ruback: Harvard University and National Bureau of Economic Research. **SR** National Bureau of Economic Research Working Paper: 4724; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PG** 35. **PR** $5.00. **JE** G34, G12. **KW** Leverage. Market Value. Present Value. Risk Premium.
AB This paper compares the market value of highly leveraged transactions (HLT's) to the discounted value of their corresponding cash flow forecasts. These forecasts are provided by management to investors and shareholders in 51 HLT's completed between 1983 and 1989. Our estimates of discounted cash flows are within 10%, on average, of the market values of the completed transactions. Our estimates perform at least as well as valuation methods using comparable companies and transactions. We also invert our analysis and estimate the risk premium implied by transaction values and forecast cash flows, and the relation of the implied risk premium to firm-level betas, industry-level betas, firm size, and firm book-to-market ratios.

Khan, M. Ali
PD February 1994. **TI** Integrals of Set-Valued Functions With a Countable Range. **AU** Khan, M. Ali; Sun, Yeneng. **AA** Khan: Johns Hopkins University. Sun: National University of Singapore. **SR** Johns Hopkins Department of Economics Working Paper: 330; Department of Economics, Johns Hopkins University, Baltimore, Maryland 21218. **PG** 22. **PR** no charge. **JE** C60. **KW** Marriage Lemma. Measurable Selection. Convexity. Polish Space. Topology.
AB Approximate versions, both of Lyapunov-type results on the compactness and convexity of the integral of a correspondence, and Fatou-type results on the preservation of upper semicontinuity by integration, are well known in the context of an infinite dimensional space. We report exact versions of these two types of results for integrals of Banach space valued correspondences with a countable range. We present results on both Bochner and Gel'fand integration.

Kiguel, Miguel A.
PD May 1993. **TI** Seigniorage and Inflation: The Case of Argentina. **AU** Kiguel, Miguel A.; Neumeyer, Pablo A. **AA** Kiguel: The World Bank. Neumeyer: University of Southern California. **SR** University of Southern California Arthur Andersen Working Paper Series: 9312; Department of Economics, University of Southern California, University Park, Los Angeles, CA 90089-0253. **PG** 14. **PR** no charge. **JE** E31, E41, E58, N16. **KW** Inflation. Seigniorage. Money Demand. Argentina.
AB This paper studies the relation between seigniorage and inflation in Argentina for the period 1979-1989. We estimate a money demand function and derive the Laffer curve for several sub-periods with different monetary/exchange rate regimes. We find that for most of the period the Argentine economy remained on the "efficient" side of the Laffer curve. The long-run revenue maximizing rate of inflation has been around 20% per month for the "tablita" (1979-1981) and post-Austral (1985-1988) periods and around 30% per month for the pre-Austral period (1982-1985). The long-run maximum level of seigniorage has been above 6% of GDP. Our results imply that the hyperinflation experienced by Argentina in 1989 can be interpreted as an unstable phenomenon that resulted from the need to collect a level of seigniorage that exceeded the maximum warranted by the demand for money.

Kim, Chang Gun
TI Effectiveness of Government Policy: An Experience From a National Health Care System. **AU** Yamada, Tetsuji; Kim, Chang Gun; Yamada, Tadashi; Noguchi, Haruko.

Kleiner, Morris M.
TI Do Unions Make Enterprises Insolvent? **AU** Freeman, Richard B.; Kleiner, Morris M.

Klemperer, Paul
TI Auctions vs. Negotiations. **AU** Bulow, Jeremy I.; Klemperer, Paul.

Kletzer, Kenneth M.

TI Recent Private Capital Inflows to Developing Countries: Is the Debt Crisis History? **AU** Dooley, Michael P.; Kletzer, Kenneth M.; Fernandez-Arias, Eduardo.

TI Capital Flight, External Debt and Domestic Policies. **AU** Dooley, Michael P.; Kletzer, Kenneth M.

Kopp, Raymond J.

TI Cost-Benefit Analysis and International Environmental Policy Decision Making: Problems of Income Disparity. **AU** Burtraw, Dallas; Kopp, Raymond J.

TI Distributional and Environmental Consequences of Taxes on Energy: A Partial Equilibrium Model of U.S. Household Energy Demand. **AU** Dowlatabadi, Hadi; Kopp, Raymond J.; Tschang, F. Ted.

PD May 1994. **TI** Discounting for Damage Assessment. **AA** Resources for the Future. **SR** Resources for the Future Discussion Paper: 94-31; Resources for the Future, 1616 P Street, N.W., Washington, D.C. 20036. **PG** 30. **PR** $3.00 (prepaid, U.S. funds only). **JE** K32, D62, D63. **KW** Discounting. Natural Resource Damages. Federal Legislation.

AB Several pieces of federal legislation permit federal and state governments to recover damages for injuries caused by responsible parties to natural resources. The two most well-known pieces of legislation are the Comprehensive, Environmental Response and Compensation Act (CERCLA), also known as superfund, and the Oil Pollution Act of 1990 (OPA). Calculation of damages under these two acts will generally require the use of discounting in the estimation of: (1) response and damage assessment costs, (2) lost interim use, (3) restoration costs, and (4) prejudgment interest. The primary purpose of this paper is to provide trustees, responsible parties, and other individuals engaged in natural resource damage assessments with guidance regarding the economic procedure known as discounting.

TI Integrated Economic and Ecological Modeling for Public Policy Decision Making. **AU** Dowlatabadi, Hadi.; Goulder, Lawrence H.; Kopp, Raymond J.

Krautkraemer, Jeffrey

TI Neoclassical Economic Growth Theory and "Sustainability". **AU** Toman, Michael; Pezzey, John; Krautkraemer, Jeffrey.

Krueger, Alan B.

PD June 1994. **TI** The Effect of the Minimum Wage When it Really Bites: A Reexamination of the Evidence From Puerto Rico. **AA** Princeton University and National Bureau of Economic Research. **SR** National Bureau of Economic Research Working Paper: 4757; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PG** 25. **PR** $5.00. **JE** J31, J38. **KW** Minimum Wage. Puerto Rico. Employment.

AB This paper reinvestigates the evidence on the impact of the minimum wage on employment in Puerto Rico. The strongest evidence that the minimum wage had a negative effect on employment comes from an aggregate time series analysis. The weakest evidence comes from cross-industry analyses. The main finding of the paper, however, is that the statistical evidence of a negative employment effect of the minimum wage in Puerto Rico is surprisingly fragile.

TI An Evaluation of the Swedish Active Labor Market Policy: New and Received Wisdom. **AU** Forslund, Anders; Krueger, Alan B.

Krupnick, Alan J.

TI The Social Costs of Electricity: How Much of the Camel to Let Into the Tent? **AU** Burtraw, Dallas; Krupnick, Alan J.

PD July 1992. **TI** Global Warming and Urban Smog: The Cost Effectiveness of CAFE Standards and Alternative Fuels. **AU** Krupnick, Alan J.; Walls, Margaret A.; Collins, Carol T. **AA** Resources for the Future. **SR** Resources for the Future, Energy and Natural Resources Division Discussion Paper: ENR92-13; Energy and Natural Resources Division, Resources for the Future, 1616 P Street, NW., Washington, DC 20036. **PG** 42. **PR** $3.00 prepaid (U.S. funds only). **JE** Q42, Q48, Q28. **KW** Greenhouse Gases. Cost-Effectiveness. Fuel Cycle. Carbon Tax.

AB This paper evaluates alternative transportation policies for reducing greenhouse gas emissions and ozone precursors. The net cost-effectiveness (i.e., the cost per ton of greenhouse gas reduced, adjusted for ozone reduction benefits) of substituting methanol, compressed natural gas (CNG), and reformulated gasoline for conventional gasoline is assessed and compared with the cost-effectiveness of raising the corporate average fuel economy (CAFE) standard to 38 miles per gallon. Computing this "net" cost-effectiveness is one way of measuring the joint environmental benefits that these alternatives provide. Greenhouse gas emissions are assessed over the entire fuel cycle and include not only carbon dioxide emissions, but also methane, carbon monoxide, and nitrous oxide emissions. In computing cost-effectiveness, we account for the so-called "rebound effect"--the impact on vehicle-miles traveled of higher or lower fuel costs. CNG is found to be the most cost-effective of these alternatives, followed by increasing the CAFE standard, substituting methanol for gasoline, and substituting reformulated for conventional gasoline. Including the ozone reduction benefits does not change the rankings of the alternatives, but does make the alternative fuels look better relative to increasing the CAFE standard. Incorporating the rebound effect greatly changes the magnitude of the estimates but does not change the rankings of the alternatives. None of the alternatives look cost-effective should a carbon tax of $35 per ton be passed and only CNG under optimistic assumptions looks cost-effective if a tax of $100 per ton of carbon is passed.

PD January 1993. **TI** The Social Costs of Fuel Cycles: Lessons Learned. **AA** Resources for the Future. **SR** Resources for the Future, Quality of the Environment Division Discussion Paper: 93-04; Quality of the Environment Division, Resources for the Future, 1616 P Street, NW., Washington, DC 20036. **PG** 38. **PR** $3.00 prepaid (U.S. funds only). **JE** not available. **KW** not available.
AB not available.

PD June 1993. **TI** The Benefits of Ambient Air Quality Improvements in Central and Eastern Europe: A Preliminary Assessment. **AU** Krupnick, Alan J.; Harrison Kenneth; Nickell, Eric; Toman, Michael. **AA** Resources for the Future. **SR** Resources for the Future, Energy and Natural Resources Division Discussion Paper: ENR93-19; Energy and Natural Resources Division, Resources for the Future, 1616 P Street, NW., Washington, DC 20036. **PG** 37. **PR** $3.00 prepaid

(U.S. funds only). **JE** Q25, I12. **KW** Air Pollution. Human Health. Eastern Europe. Central Europe.

AB This study is an initial effort to estimate one important category of benefits, those related to the effects of air pollution on human health. Our estimates are derived from data on ambient air quality in selected CEE locations, together with a model that links these ambient conditions to physical impacts on health and attaches economic values (in dollar terms) to these impacts. Given data limitations, our focus here is on three pollutants: particulates (PM), sulfur dioxide, and lead (Pb). Our data set includes ambient concentrations for these pollutants in five CEE countries: Bulgaria, the Czech Republic, Hungary, Poland, and Ukraine. Given the ambient data, dose-response functions taken from the clinical and epidemiological literature in the U.S., Canada, and Western Europe are used to generate estimates of physical effects and measures of the consequences. These effects then are given an economic value by scaling unit valuation figures applicable to the U.S. Different scaling procedures are used to reflect valuation uncertainties. Low, medium, and high impacts and valuations are represented. We focus first on scenarios where the CEE countries improve ambient conditions for the pollutants in question to meet European Community (EC) standards. We then compare these scenarios to ones involving uniform percentage ambient reductions across locations in each country.

TI Toward an Integrated Theory of Open Economy Environmental and Trade Policy. **AU** Panagariya, Arvind; Palmer, Karen; Oates, Wallace E.; Krupnick, Alan J.

PD September 1993. **TI** The Distributional and Environmental Implications of an Increase in the Federal Gasoline Tax. **AU** Krupnick, Alan J.; Walls, Margaret A.; Hood, H. Carter. **AA** Resources for the Future. **SR** Resources for the Future, Energy and Natural Resources Division Discussion Paper: ENR93-24; Energy and Natural Resources Division, Resources for the Future, 1616 P Street, NW., Washington, DC 20036. **PG** 26. **PR** $3.00 prepaid (U.S. funds only). **JE** Q28, L92. **KW** Vehicle Transportation. Gasoline Tax. Regional Analysis.

AB This paper examines the impacts of the 1993 4.3 cent/gallon increase in the federal gasoline tax. Using an econometric model of the demand for vehicle-miles-traveled (VMT's) in households in the U.S., the paper estimates a reduction in annual VMT's and a reduction in annual gasoline consumption, of approximately 1.9 percent. This means that an average vehicle in the U.S. is driven 239 fewer miles each year as a result of the tax. The average U.S. household pays an extra $39 each year in gasoline taxes, 0.112 percent of its income. Of the $39, $42 is additional federal gasoline tax payments and $3 is the average reduction in state gasoline tax payments as a result of the drop in gasoline consumption. There are some noticeable regional differences in tax payments, as well as differences across income groups. The average household in the Mid-Atlantic states (New York, New Jersey, and Pennsylvania), for example, pays only 0.079 percent of its income in additional taxes, while the average West South Central household (Texas, Oklahoma, Louisiana, and Arkansas) pays 0.144 percent of its income in extra taxes. Households in the lowest income quintile, those making less than $27,500 per year, pay 0.172 percent of their incomes in additional taxes, on average, compared to an average of 0.067 for households in the highest income quintile, above $77,500 per year.

TI Estimating the Demands for Vehicle-Miles-Traveled Using Household Survey Data: Results From the 1990 Nationwide Personal Transportation Survey. **AU** Walls, Margaret A.; Krupnick, Alan J.; Hood, H. Carter.

TI Bridging the Gap Between State and Federal Social Costing. **AU** Burtraw, Dallas; Krupnick, Alan J.

PD September 1993. **TI** The External Costs of Nuclear Power: Ex Ante Damages and Lay Risks. **AU** Krupnick, Alan J.; Markandya, Anil; Nickell, Eric. **AA** Krupnick and Nickell: Resources for the Future. Markandya: Harvard University. **SR** Resources for the Future, Quality of the Environment Division Discussion Paper: 93-28; Quality of the Environment Division, Resources for the Future, 1616 P Street, NW., Washington, DC 20036. **PG** 45. **PR** $3.00 prepaid (U.S. funds only). **JE** D62, Q42, D61, D81. **KW** Nuclear Power. External Costs. Risk Assessment. Expected Utility.

AB Current practice in estimating the damages from accidents at nuclear power plants appears to ignore significant features of the problem from the perspective of economic analysis. Individual aversion to risk, the ex ante perspective in decision making under uncertainty, and lay risk perception are all conceptually important elements of a damage estimate that accords with observation of behavior and the theory that underlies it but that are ignored by common practice. The difference between lay and expert risk perception is a particularly important element conceptually. While no one wishes to see public policy decisions made on the basis of an uniformed, irrational public, the idea is advanced here that the public can make rational and replicable assessments about risks, and that the concept of risk held by the public is broader than that of the experts. To ignore such differences in risk perceptions means ignoring the real economic consequences of such differences, whether in depressed property values near sites with nuclear activities or in the inability of the U.S. nuclear industry to site any additional power plants. This paper seeks to give some empirical content to these issues through a series of simulations using several different ways of portraying individual preferences (i.e., two different state-dependent utility functions). In this effort, we build on and extend work by Freeman (1989) and Smith (1992). To make the simulations as realistic as possible, we draw on the scant literature available for parameter values and, in particular, use baseline data and results from a traditional damage assessment of nuclear power plant accidents performed as part of the U.S./EC Fuel Cycle Study.

TI An Analysis of Alternative Approaches to Implementing Social Costing of Electricity in Maryland. **AU** Palmer, Karen; Krupnick, Alan J.; Dowlatabadi, Hadi; Siegel, Stuart.

Kuan, Chung-Ming

TI MOSUM Tests for Parameter Constancy. **AU** Chu, Chia-Shang James; Hornik, Kurt; Kuan, Chung-Ming.

Lach, Saul

PD June 1994. **TI** Staggering and Synchronization in Price-Setting: Evidence From Multiproduct Firms. **AU** Lach, Saul; Tsiddon, Daniel. **AA** Lach: Hebrew University and National Bureau of Economic Research. Tsiddon: Brown University, Hebrew University, and Centre for Economic Policy Research. **SR** National Bureau of Economic Research Working Paper: 4759; National Bureau f Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PG** 38. **PR** $5.00. **JE** D43, D21. **KW** Price Setting.

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

Laidler, David

PD August 1992. **TI** Hayek on Neutral Money and the Cycle. **AA** University of Western Ontario. **SR** University of Western Ontario Department of Economics Research Report: 9206; Department of Economics, Social Sciences Center, University of Western Ontario, London, Ontario, CANADA N6A 5C2. **PG** 38. **PR** Canada $7.00; Elsewhere $9.00. **JE** B22, E32, E41. **KW** Hayek. Neutrality. Business Cycle.
AB This essay discusses Hayek's contributions to macroeconomics in the 1920's and earlier 1930's, and attempts to assess their importance relative to contemporary as well as to later work. It begins with a brief account of the roots of his analysis as they appear in the writings of Wicksell, Bohm-Bawerk and von Mises, and goes on to describe Hayek's own theory of the cycle. It then argues that, though there is much to admire in that theory, the features that most clearly distinguish it from the work of such contemporaries as Robertson, and indeed the Stockholm School, are also the least defensible, and indeed were recognized as such at the time. It also suggests that the links between Hayek's accelerationism and Friedman's are at best tenuous. It concludes that, though the significance of Hayek's work for the development of economics in the 1930's is amply confirmed, so is the view that his specific analytic conclusions have little direct relevance for more recent debates. Nevertheless many of the issues which he addressed figure prominently in those later debates, and if his contributions are judged with regard to the questions he raised, rather than the answers he gave, then a more favorable verdict is warranted.

Lal, Rajiv

PD April 1994. **TI** Competitive Price Promotions With Multi-Product Retailers. **AU** Lal, Rajiv; Villas-Boas, J. Miguel. **AA** Lal: Stanford University. Villas-Boas: University of California, Berkeley. **SR** Stanford Graduate School of Business Research Paper: 1303; Graduate School of Business, Stanford University, Stanford, CA 94305-5015. **PG** 36. **PR** no charge. **JE** D43, L14, L60. **KW** Price Promotions. Trade Deals. Market Structure.
AB In this paper we study retail price promotions and manufacturer trade deals in markets with single or multiple product retailers. We find that models that do not account for the existence of retailers overestimate the depth of promotions. In situations where retailers carry more than one competing brand, we show that the promotions across brands are not independent. Moreover, it is a dominant strategy for manufacturers to distribute through several retailers even though their profits might end up lower than if each retailer carried only one product. Finally, the structure of the market is crucial to the characterization of the equilibrium. Depending on the relative sizes of the various market segments (in terms of loyalty to manufacturer, retailer, or the pair manufacturer-retailer), we show that sometimes retailers offer the same discount on different products but at other times, they offer a smaller discount on a brand supported by a bigger trade deal. We also present results on the effects of changes in the sizes of the different market segments on the depth of price promotions and trade deals and on passthrough. Finally, we compare these results for single vs. multi-product retailers.

TI Shelf Space Allocation for Store Brands. **AU** Corstjens, Marcel; Lal, Rajiv; Corstjens, Judy.

PD June 1994. **TI** The Impact of Manufacturer Advertising on Retail and Wholesale Margins. **AU** Lal, Rajiv; Narasimhan, Chakravarthi. **AA** Lal: Stanford University. Narasimhan: Washington University. **SR** Stanford Graduate School of Business Research Paper: 1306; Graduate School of Business, Stanford University, Stanford, CA 94305-5015. **PG** 37. **PR** no charge. **JE** D21, M37, L21. **KW** Advertising. Wholesale Margins. Retail Margins. Channel Competition.
AB In this paper we explore the relationship between brand advertising and wholesale and retail margins. We show that when the retail market is characterized by oligopolistic competition, higher level of brand advertising by a manufacturer can lead to lower retail margins while at the same time increasing the brand's wholesale margin. We show that this effect persists even under oligopolistic competition at the wholesale level (i.e., at the manufacturer level). This result is in stark contrast to the traditional derived demand theory and we elaborate on the causes of this deviation.

Leahy, John

TI Mass Layoffs and Unemployment. **AU** Caplin, Andrew; Leahy, John.

Leamer, Edward E.

PD May 1994. **TI** American Regionalism and Global Free Trade. **AA** University of California, Los Angeles and National Bureau of Economic Research. **SR** National Bureau of Economic Research Working Paper: 4753; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PG** 23. **PR** $5.00. **JE** F13, F14. **KW** Trade Agreements. NAFTA. Customs Union.
AB A free trade agreement supports global free trade since barriers tend to divert trade in favor of members, but not reduce imports. The term: "mutual assured deterrence" is used to refer to a regional free trade association that has the feature that no member can gain individually from the imposition of a barrier against a non-member. Mutual assured deterrence is shown to be possible for a surprisingly rich set of partners. A customs union is compatible with global free trade if the vast majority of trade takes place naturally within the confines of the association. A customs union that is likely to have this property would combine countries to form a nearly exact economic replica of the globe. The economic combination of Mexico and the United States doesn't form a replica of the global economy because, compared with Asia, North America has relatively high capital per worker even after adding the Mexican

workforce. However, NAFTA does seem to have the property of mutual assured deterrence, and may for that reason amount to a commitment to global free trade as well as regional free trade.

Learner, Edward E.

PD April 1994. **TI** Trade, Wages and Revolving Door Ideas. **AA** University of California, Los Angeles and National Bureau of Economic Research. **SR** National Bureau of Economic Research Working Paper: 4716; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PG** 26. **PR** $5.00. **JE** F14, J31, O33. **KW** Wages. Technological Change. Globalization.

AB Recent discussions of the effects of globalization and technological change on U.S. wages have suffered from inappropriate or missing references to the basic international trade theorems: The Factor Price Equalization Theorem, the Stolper-Samuelson Theorem, and the Samuelson Duality Theorem. Until the theory is better understood, and until the theory and the estimates are sensibly linked, the jury should remain out. This paper gives examples of the misuse of the international micro theory linking technological change and globalization to the internal labor market. This international micro theory serves as a foundation for a reexamination of the NBER Trade and Immigration Data Base that describes output, employment, and investment in 450-digit SIC U.S. manufacturing sectors beginning in 1970. Estimates of the impact of technological change on income inequality are shown to vary widely depending on the form of the model and the choice of data subsets, but uniformly the estimates suggest that technological change reduced income inequality, not increased it. But the data separation of workers into "production" and "non-production" workers has little association with skill levels, and these data probably cannot be used to study income inequality.

Lee, Jong-Wha

PD April 1994. **TI** Capital Goods Imports and Long-Run Growth. **AA** Korea University and National Bureau of Economic Research. **SR** National Bureau of Economic Research Working Paper: 4725; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PG** 20. **PR** $5.00. **JE** O41, E13, F41. **KW** Endogenous Growth. Open Economy. Capital Stock.

AB This paper presents an endogenous growth model of an open economy in which the growth rate of income is higher if foreign capital goods are used relatively more than domestic capital goods for the production of capital stock. Empirical results, using cross country data for the period 1960-85, confirm that the ratio of imported to domestically produced capital goods in the composition of investment has a significant positive effect on per capita income growth rates across countries, in particular, in developing countries. Hence, the composition of investment in addition to the volume of total capital accumulation is highlighted as an important determinant of economic growth.

Leeper, Eric M.

PD June 1994. **TI** Toward a Modern Macroeconomic Model Usable for Policy Analysis. **AU** Leeper, Eric M.; Sims, Christopher A. **AA** Leeper: Federal Reserve Bank of Atlanta. Sims: Yale University. **SR** National Bureau of Economic Research Working Paper: 4761; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PG** 27. **PR** $5.00. **JE** E12, E13, E61, D58. **KW** Aggregative Models. Policy Analysis. General Equilibrium.

AB This paper presents a macroeconomic model that is both a completely specified dynamic general equilibrium model and a probabilistic model for time series data. We view the model as a potential competitor to existing ISLM-based models that continue to be used for actual policy analysis. Our approach is also an alternative to recent efforts to calibrate real business cycle models. In contrast to these existing models, the one we present embodies all the following important characteristics: i) It generates a complete multivariate stochastic process model for the data it aims to explain, and the full specification is used in the maximum likelihood estimation of the model; ii) It integrates modeling of nominal variables--money stock, price level, wage level, and nominal interest rate--with modeling real variables; iii) It contains a Keynesian investment function, breaking the tight relationship of the return on investment with the capital-output ratio; iv) It treats both monetary and fiscal policy explicitly; v) It is based on dynamic optimizing behavior of the private agents in the model. Flexible-price and sticky-price versions of the model are estimated and their fits are evaluated relative to a naive model of no-change in the variables and to an unrestricted VAR. The paper displays the model's implications for the dynamic responses to structural shocks, including policy shocks, and evaluates the relative importance of various shocks for determining economic fluctuations.

Lemieux, Thomas

TI Changing Wage Structure and Black-White Wage Differentials Among Men and Women: A Longitudinal Analysis. **AU** Card, David; Lemieux, Thomas.

Lenway, Stefanie

PD March 1994. **TI** Rent Seeking and Protectionism in the American Steel Industry: An Empirical Analysis. **AU** Lenway, Stefanie; Morck, Randall; Yeung, Bernard. **AA** Lenway: University of Minnesota. Morck: University of Alberta. Yeung: University of Michigan. **SR** University of Michigan Research Forum on International Economics Discussion Paper: 349; Professor Robert M. Stern, Institute of Public Policy Studies, University of Michigan, 440 Lorch Hall, Ann Arbor, MI 48109-1220. **PG** 54. **PR** $4 (U.S. Funds) for shipping and handling (checks should be payable to: IPPS. Enclose with order). **JE** F13, F14, L61. **KW** Protectionism. Steel Firms. R&D.

AB Based on firm level data in the U.S. steel industry, we examine what sort of firm seeks protection, who the beneficiaries of trade protection are, and how firms behave under protection. Steel firms that seek protection tend to be larger, more involved in steel operations, less profitable, pay a higher level of salaries and wages, and less willing to spend on R&D than steel firms that do not seek protection. Share-holders in general gain from trade protection. It appears, however, that the voluntary trade restraints in the eighties which protection-seeking firms pushed for benefited only share-holders of these firms. The protection also led to a raise in these firm's top executive salaries and bonuses which was unrelated to performance. In our sample period, the overwhelming majority of exiting firms are non-protection-seeking firms and tend to higher R&D spending than those firms remaining in the industry. We also find that protectionist policies may have reduced the value of past investment in research and development.

Leusner, John H.

TI The Efficiency of Bank Branches. **AU** Berger, Allen N.; Leusner, John H.; Mingo, John J.

Levitt, Steven D.

PD April 1994. **TI** Congressional Distributive Politics and State Economic Performance. **AU** Levitt, Steven D.; Poterba, James M. **AA** Levitt: National Bureau of Economic Research. Poterba: Massachusetts Institute of Technology and National Bureau of Economic Research. **SR** National Bureau of Economic Research Working Paper: 4721; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PG** 39. **PR** $5.00. **JE** D72, D73, O47. **KW** Congressional Representation. Politics. Economic Growth.

AB This paper tests several theories of the effects of congressional representation on state economic growth. States that were represented by very senior Democratic congressmen grew more quickly during the 1953-1990 period than states that were represented by more junior congressional delegations. We find some, but weaker, evidence that states with a high fraction of their delegation on particularly influential committees also exhibit above-average growth. We also test partisan models of distributive politics by studying the relationship between a state's degree of political competition and its growth rate. Our findings support both nonpartisan and partisan models of congressional distributive politics. In spite of our findings with respect to economic growth, we can not detect any substantively important association between congressional delegation seniority, the degree of state political competition, and the geographic distribution of federal funds. The source of the growth relationships we identify therefore remains an open question.

Li, Shuhe

TI Transportation Cost and Industrial Structure: A Test With China's Cross-Regional Data. **AU** Feng, Qi; Gong, Changzhen; Li, Shuhe.

Lipsey, Robert E.

PD April 1994. **TI** U.S. Foreign Trade and the Balance of Payments, 1800-1913. **AA** C.U.N.Y. and National Bureau of Economic Research. **SR** National Bureau of Economic Research Working Paper: 4710; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PG** 50. **PR** $5.00. **JE** F14, N11. **KW** International Trade. Balance of Payments. Exports.

AB This paper reviews the main developments in U.S. trade and the balance of payments from the first years of the 19th century to the first decade of the 20th. American export trade was dominated by agricultural and other resource products long after the majority of the labor force had shifted out of agriculture. The shift out of agriculture was more rapid among the major trading partners of the United States because the American land area increased in the first half of the nineteenth century and agricultural land increased throughout the century. The rise in agricultural land area and a rapid decline in transport cost increased the supply of U.S. agricultural products to Europe and further displaced European agriculture and encouraged migration from Europe. The existence of the large world market, relatively open to the products of American comparative advantage and with a high price elasticity of demand for American exports, encouraged the expansion of U.S. land, agriculture, capital inflows, immigration, and the western migration of population.

Liu, Jin Long

TI Using Random Utility Models to Estimate the Recreational Value of Estuarine Resources. **AU** Kaoru, Yoshiaki; Smith, V. Kerry; Liu, Jin Long.

Lo, Andrew W.

TI A Nonparametric Approach to Pricing and Hedging Derivative Securities Via Learning Networks. **AU** Hutchinson, James M.; Poggio, Tomaso; Lo, Andrew W.

PD April 1994. **TI** Implementing Option Pricing Models When Asset Returns are Predictable. **AU** Lo, Andrew W.; Wang, Jiang. **AA** Lo: Massachusetts Institute of Technology and National Bureau of Economic Research. Wang: Massachusetts Institute of Technology. **SR** National Bureau of Economic Research Working Paper: 4720; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PG** 37. **PR** $5.00. **JE** G12, G13. **KW** Black-Scholes Formula. Derivative Securities. Option Pricing.

AB Option pricing formulas obtained from continuous-time no-arbitrage arguments such as the Black-Scholes formula generally do not depend on the drift term of the underlying asset's diffusion equation. However, the drift is essential for properly implementing such formulas empirically, since the numerical values of the parameters that do appear in the option pricing formula can depend intimately on the drift. In particular, if the underlying asset's returns are predictable, this will influence the theoretical value and the empirical estimate of the diffusion coefficient. We develop an adjustment to the Black-Scholes formula that accounts for predictability and show that this adjustment can be important even for small levels of predictability, especially for longer-maturity options. We propose a class of continuous-time linear diffusion processes for asset prices that can capture a wider variety of predictability, and provide several numerical examples that illustrate their importance for pricing options and other derivative assets.

Lovely, Mary E.

TI Technological Linkages, Market Structure, and Optimum Production Policies. **AU** Holtz-Eakin, Douglas; Lovely, Mary E.

Lukonga, Inutu

PD May 1994. **TI** Nigeria's Non-Oil Exports: Determinants of Supply and Demand, 1970-90. **AA** International Monetary Fund. **SR** International Monetary Fund Working Paper: WP/94/59; International Monetary Fund, 700 19th Street, Washington, DC 20431. **PG** 15. **PR** not available. **JE** F14, E23. **KW** Exports. Elasticity. Domestic Demand. Nigeria.

AB This paper reviews Nigeria's non-oil export performance during the period 1970-90, analyzes the factors underlying the dismal performance, and estimates the supply-price elasticity of the exports for both the short and long run. A distinguishing feature of the analysis is the incorporation of the effect of domestic demand in the export supply equation for agricultural commodity exports--a feature usually reserved for manufactured goods where it is generally assumed that domestic demand competes with export demand. The results provide evidence of the adverse effects of restrictive government policies on exports and underscore the utility of pricing policy in eliciting export supply.

Lutz, Nancy A.

PD April 1994. **TI** Why do We Observe Minimal Warranties? **AU** Lutz, Nancy A.; Padmanabhan, V. **AA** Lutz: Virginia Polytechnic Institute and State University. Padmanabhan: Stanford University. **SR** Stanford Graduate School of Business Research Paper: 1293; Graduate School of Business, Stanford University, Stanford, CA 94305-5015. **PG** 47. **PR** no charge. **JE** D62, D11, D81. **KW** Moral Hazard. Warranty. Externality. Extended Warranty. Risk Aversion.

AB Why is it that some products carry a minimal manufacturer base warranty even though all consumers are risk-averse? Conventional wisdom suggests that it is profitable for the manufacturer to offer a comprehensive warranty in this setting. We provide in this paper an explanation for the provision of minimal warranty in markets where all consumers are risk-averse. Minimal warranties are created by the impact of consumer moral hazard and competition in the insurance after-market for the product. We show that consumers who purchase optional extended warranties from an independent provider of insurance create a significant negative externality on the warranty redemption costs of the manufacturer. This in turn creates a significant erosion in the manufacturer's profits from warranty insurance. Consequently, it is in the best interest of the manufacturer to drop the level of warranty coverage provided with the product. The intuition holds for homogeneous as well as heterogeneous markets of consumers.

Lyon, Andrew B.

PD June 1994. **TI** The Alternative Minimum Tax and the Behavior of Multinational Corporations. **AU** Lyon, Andrew B.; Silverstein, Gerald. **AA** Lyon: University of Maryland and National Bureau of Economic Research. Silverstein: U.S. Department of Treasury. **SR** National Bureau of Economic Research Working Paper: 4783; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PG** 32. **PR** $5.00. **JE** F23, H25, G31. **KW** Alternative Minimum Tax. Multinational Firms. Investment.

AB This paper examines the extent to which U.S.-based multinational corporations are affected by the alternative minimum tax. More than half of all foreign-source income received by corporations in 1990 was earned by corporations subject to the alternative minimum tax. The AMT rules potentially affect multinational corporations in a manner different from their effect on domestic corporations. The paper examines the differential incentives the AMT creates for locating investment either domestically or abroad and considers how the incentives for the repatriation of foreign-source income are affected by the AMT. Tax return data of U.S.-based multinationals are examined to see the extent to which these incentives may influence the repatriation of foreign-source income.

Lyon, Kenneth S.

TI Global Forest Products Trade: The Consequences of Domestic Forest Land-Use Policy. **AU** Sedjo, Roger A.; Wiseman, A. Clark; Brooks, David J.; Lyon, Kenneth S.

TI Changing Timber Supply and the Japanese Market. **AU** Sedjo, Roger A.; Wiseman, A. Clark; Brooks, David J.; Lyon, Kenneth S.

Macauley, Molly K.

TI The Value of Information and the Cost of Advocacy. **AU** Harrington, Winston; Macauley, Molly K.

PD September 1992. **TI** In Pursuit of a Sustainable Space Environment: Economic Issues in Regulating Space Debris. **AA** Resources for the Future. **SR** Resources for the Future, Energy and Natural Resources Division Discussion Paper: ENR92-14; Energy and Natural Resources Division, Resources for the Future, 1616 P Street, NW., Washington, DC 20036. **PG** 34. **PR** $3.00 prepaid (U.S. funds only). **JE** Q28, Q29. **KW** Economic Incentives. Space Debris.

AB Ranging from used rockets, derelict satellites, and camera lens caps to particulates from propellant fuels, debris in space is a growing, worldwide concern. Most experts appear to agree that current levels of debris are presently manageable, but they caution that the rate of debris growth could render many orbital locations unusable within the next decades. This paper discusses several economic issues associated with space debris. The paper assumes that there is some amount of debris that is "liveable" in the sense that the costs of reducing debris beyond this level exceed the benefits, and addresses several policy alternatives to obtaining this level. The alternatives go beyond those which are the focus of current debate, which tends to be limited to technical approaches to debris mitigation, to consider economic incentives for debris control. Such incentives include debris-related launch fees, deposit-refund mechanisms for spacecraft or component reuse or deorbit, and social insurance premia and performance bonds sized to favor actions that reduce debris generation.

PD January 1993. **TI** Managing Municipal Solid Waste: Advantages of the Discriminating Monopolist. **AU** Macauley, Molly K.; Salant, Stephen W.; Walls, Margaret A.; Edelstein, David. **AA** Macauley, Walls, Edelstein: Resources for the Future. Salant: University of Michigan. **SR** Resources for the Future, Energy and Natural Resources Division Discussion Paper: ENR93-05; Energy and Natural Resources Division, Resources for the Future, 1616 P Street, NW., Washington, DC 20036. **PG** 21. **PR** $3.00 prepaid (U.S. funds only). **JE** Q21, Q24, Q28. **KW** Solid Waste. Monopoly.

AB Of 180 million tons of municipal solid waste generated each year, about 8 percent, or 15 million tons, is disposed in a state other than that in which it is generated. While this amount seems small, the transport costs associated with it amount to about $500 million annually. The rationale for willingness to incur the transport costs reflects the closing of many landfills in the Northeast, a sharp rise in tipping fees (the charge to unload a truck) in these states, and the inability of many states to site new landfills. Many states have sought to restrict out-of-state imports of waste by limiting the quantity of imports, charging higher tipping fees for imports, or otherwise constraining the interstate waste market. The Supreme Court has struck down most of these attempts, generally on the basis that the restrictions violate the Interstate Commerce Clause. The Clause does, however, empower Congress to allow states to regulate commerce in ways that would otherwise be forbidden. As a result, the Congress has proposed numerous bills to permit interstate waste market restrictions. This paper first reviews the judicial and legislative history of rule makings concerning the interstate waste trade. The paper then considers conditions under which some forms of differential treatment between in- and out-of-state waste--in particular, charging higher prices to out-of-state users--may be welfare improving in both the short- and long-runs. The paper considers the behavior of privately and publicly owned landfills (while most landfills are publicly owned, most landfill capacity is privately owned; thus, both cases are important to consider.) A concluding section illustrates how the size of the welfare change from differential treatment might be derived.

TI The Impact of Uncertain Environmental Liability on Industrial Real Estate Development: Developing a Framework for Analysis. **AU** Boyd, James; Harrington, Winston; Macauley, Molly K.; Calhoon, Mary Elizabeth.

TI The Impact of Uncertain Environmental Liability on Industrial Real Estate Development: Developing a Framework for Analysis. **AU** Boyd, James; Harrington, Winston; Macauley, Molly K.; Calhoon, Mary Elizabeth.

Machin, Stephen

TI Trade Unions and the Dispersion of Earnings in British Establishments, 1980-90. **AU** Gosling, Amanda; Machin, Stephen.

TI British Unions in Decline: An Examination of the 1980's Fall in Trade Union Recognition. **AU** Disney, Richard; Machin, Stephen; Gosling, Amanda.

TI The Effects of Minimum Wages on Employment: Theory and Evidence From the U.K. **AU** Dickens, Richard; Manning, Alan; Machin, Stephen.

MacKie-Mason, Jeffrey K.

TI Why Is There Corporation Taxation in a Small Open Economy? The Role of Transfer Pricing and Income Shifting. **AU** Gordon, Roger H.; MacKie-Mason, Jeffrey K.

MacKinlay, A. Craig

PD June 1994. **TI** Multifactor Models do not Explain Deviations From the CAPM. **AA** University of Pennsylvania and National Bureau of Economic Research. **SR** National Bureau of Economic Research Working Paper: 4756; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PG** 28. **PR** $5.00. **JE** G12, D81. **KW** CAPM. Risk. Asset Pricing.

AB A number of studies have presented evidence rejecting the validity of the Capital Asset Pricing Model (CAPM). This evidence has spawned research into possible explanations. These explanations can be divided into two main categories-- the risk-based alternatives and the non-risk-based alternatives. The risk-based category includes multifactor asset pricing models developed under the assumptions of investor rationality and perfect capital markets. The non-risk-based category includes biases introduced in the empirical methodology, the existence of market frictions, or explanations arising from the presence of irrational investors. The distinction between the two categories is important for asset pricing applications such as estimation of the cost of capital. This paper proposes to distinguish between the two categories using ex ante analysis. A framework is developed showing that ex ante one should expect that CAPM deviations due to missing risk factors will be very difficult to statistically detect. In contrast, deviations resulting from non-risk-based sources will be easy to detect. Examination of empirical results leads to the conclusion that the risk-based alternatives is not the whole story for the CAPM deviations. The implication of this conclusion is that the adoption of empirically developed multifactor asset pricing models may be premature.

Magill, Michael

PD September 1993. **TI** Infinite Horizon Incomplete Markets. **AU** Magill, Michael; Quinzii, Martine. **AA** Magill: University of Southern California. Quinzii: University of California, Davis. **SR** University of Southern California Arthur Andersen Working Paper Series: 9320; Department of Economics, University of Southern California, University Park, Los Angeles, CA 90089-0253. **PG** 36. **PR** no charge. **JE** D52. **KW** Incomplete Markets. Debt Constraints. Transversality Condition. Ponzi Schemes.

AB The model of general equilibrium with incomplete markets is a generalization of the Arrow-Debreu model which provides a rich framework for studying problems of macroeconomics. This paper shows how the model, which has so far been restricted to economies with a finite horizon, can be extended to the more natural setting of an open-ended future, thereby providing an extension of the infinite horizon representative agent models of modern macroeconomics to economies with heterogeneous agents and incomplete markets. There are two natural concepts of equilibrium over an infinite horizon which prevent agents from entering into Ponzi schemes, that is, from indefinitely postponing the repayment of their debts. The first is based on debt constraints which place bounds on debt at each date-event. The second is based on transversality conditions which limit the asymptotic rate of growth of debt. The concept of an equilibrium with a debt constraint is a natural concept of equilibrium for macroeconomic analysis, however the concept of an equilibrium with a transversality condition is more amenable to theoretical analysis since it permits the powerful techniques of Arrow-Debreu theory to be carried over the setting of incomplete markets. In an economy in which agents are impatient (expressed by the Mackey continuity of their preference orderings) and have a degree of impatience at each date-event which is bounded below (a concept defined in the paper) we show that the equilibria of an economy with a transversality condition coincide with the equilibria with debt constraints. An equilibrium with a transversality condition is shown to exist. It follows that for each economy there is an explicit bound M such that an equilibrium with explicit debt constraint M exists, in which the constraint is never binding-- this latter property ensuring that the debt constraint, whose objective is to prevent Ponzi schemes, does not in itself introduce a new imperfection into the model over and above the incompleteness of the markets.

PD September 1993. **TI** Incomplete Markets Over an Infinite Horizon: Long-Lived Securities and Speculative Bubbles. **AU** Magill, Michael; Quinzii, Martine. **AA** Magill: University of Southern California. Quinzii: University of California, Davis. **SR** University of Southern California Arthur Andersen Working Paper Series: 9321; Department of Economics, University of Southern California, University Park, Los Angeles, CA 90089-0253. **PG** 44. **PR** no charge. **JE** D52. **KW** Incomplete Markets. Debt Constraints. Transversality Condition. Ponzi Schemes.

AB This paper studies sequence economies over an infinite horizon with general security structures. Assumptions are given under which a pseudoequilibrium exists for all economies and an equilibrium exists for a dense set of (appropriately parameterized) economies. Under these assumptions the indebtedness of the agents in equilibrium can be limited either by an explicit bound on their debts or by a transversality condition limiting the asymptotic growth of their debts. The qualitative properties of equilibrium prices of infinite-lived securities are studied. The prices of infinite-lived securities in zero net supply are shown to permit speculative bubbles and the existence of bubbles can affect the equilibrium allocation. The prices of securities in positive supply (equity contracts) cannot have speculative bubbles; the extent of speculation in this class of model is thus severely limited.

Malakellis, Michael

PD July 1993. **TI** Illustrative Results From ORANI-INT: An Intertemporal CGE Model of the Australian Economy. **AA** Monash University. **SR** Centre of Policy Studies and the Impact Project Working Paper: OP-77; Centre of Policy Studies and the Impact Project, Monash University, Clayton, Victoria, Australia 3168. **PG** 40. **PR** not available. **JE** D58, C68. **KW** Intertemporal CGE. ORANI Model. Dynamic Simulation. Australia.

AB The purpose of this paper is to demonstrate how comparative-dynamic simulations may be conducted using ORANI-INT, an intertemporal CGE model of the Australian economy. The role of the intertemporal mechanisms in the model are highlighted via a detailed analysis of the results of several illustrative experiments. At this early stage of ORANI-INT's development, the purpose of these experiments is not to shed light on actual policy issues but rather to investigate the properties of the model itself. The experiments analyzed in this paper have in common a permanent expansion in government expenditure. The effects of such a shock are examined under alternative specifications of the investment theory. Also, the effects of announcing such a policy in advance of its implementation are compared to the case where the shock is implemented without warning.

Manning, Alan

TI The Effects of Minimum Wages on Employment: Theory and Evidence From the U.K. **AU** Dickens, Richard; Manning, Alan; Machin, Stephen.

Mare, David C.

TI Cities and Skills. **AU** Glaeser, Edward L.; Mare, David C.

Markandya, Anil

TI The External Costs of Nuclear Power: Ex Ante Damages and Lay Risks. **AU** Krupnick, Alan J.; Markandya, Anil; Nickell, Eric.

McCallum, Bennett T.

PD April 1994. **TI** A Semi-Classical Model of Price Level Adjustment. **AA** Carnegie-Mellon University and National Bureau of Economic Research. **SR** National Bureau of Economic Research Working Paper: 4706; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PG** 27. **PR** $5.00. **JE** D12, D43, E13, E31. **KW** Prices. Aggregate Supply. Market Clearing.

AB This paper investigates the theoretical and empirical properties of a model of aggregate supply behavior that was introduced in the 1970's but has received inadequate attention. The model postulates that price changes occur so as to gradually eliminate discrepancies between actual and market-clearing values and to reflect expected changes in market-clearing values. Its implications are more "classical" than most alternative formulations that reflect gradual price adjustment. Empirical results, which utilize a proxy for market-clearing output that is a function of fixed capital and the real price of oil, are moderately encouraging but not entirely supportive.

McConnell, Virginia

PD September 1992. **TI** Cost-Effectiveness of Enhanced Motor Vehicle Inspection and Maintenance Programs. **AU** McConnell, Virginia; Harrington, Winston. **AA** Resources for the Future. **SR** Resources for the Future, Quality of the Environment Division Discussion Paper: 92-18; Quality of the Environment Division, Resources for the Future, 1616 P Street, NW., Washington, DC 20036. **PG** 87. **PR** $3.00 prepaid (U.S. funds only). **JE** Q25, Q28. **KW** Mobile Source Emissions. Air Quality. Cost-Effectiveness. Policy Analysis.

AB In this paper we review current vehicle Inspection and Maintenance (I&M) programs for mobile source emission reduction and present a cost-effectiveness analysis of "Enhanced" I&M programs required by the 1990 Clean Air Act Amendments. The analysis relies on data from EPA's I&M test facility in Hammond, Indiana. To produce our cost-effectiveness estimates we have developed an emission model that simulates the total annual discharge from a stock of vehicles of various ages. Vehicle emissions in this model deteriorate as the vehicle ages in accordance with observed emission rates of vehicles with 50,000 and 100,000 miles. We have also developed a cost model that, like the emission model, has a large number of input parameters that can easily be changed to simulate a wide variety of policy scenarios. Our analysis differs from previous analysis by the EPA (1991b, 1992) in two major ways. First, we examine a much larger range of policies, including a decrease in the frequency of monitoring to as low as once every five years and the exemption of new vehicles from monitoring until they reach a certain age. More importantly, we calculate all costs at the margin rather than using average costs. Our main finding is that the calculation of only average costs masks some large differences in the costs of separable program components. In particular, we find that the IM240 transient tailpipe test that is the centerpiece of EPA's current Enhanced I&M proposal is quite costly, at least for the removal of VOC's. However, the pressure and purge tests for evaporative emissions appear to be quite cost-effective.

TI Modeling In-Use Vehicle Emissions and the Effects of Inspection and Maintenance Programs. **AU** Harrington, Winston; McConnell, Virginia.

TI Determinants of Participation in Accelerated Vehicle Retirement Programs. **AU** Alberini, Anna; Harrington, Winston; McConnell, Virginia.

TI Cost-Effectiveness of Remote Sensing of Vehicle

Emissions. **AU** Harrington, Winston; McConnell, Virginia.

TI Estimating an Emissions Supply Function From Accelerated Vehicle Retirement Programs. **AU** Alberini, Anna; Harrington, Winston; McConnell, Virginia.

TI Reducing Emissions From Old Cars: The Economics of the Delaware Vehicle Retirement Program. **AU** Alberini, Anna; Edelstein, David; Harrington, Winston; McConnell, Virginia.

TI Shifting Gears: New Directions for Cars and Clean Air. **AU** Harrington, Winston; Walls, Margaret A.; McConnell, Virginia.

McDougall, R. A.

PD June 1993. **TI** Flexibly Nested Production Functions: Implementation for MONASH. **AA** Monash University. **SR** Centre of Policy Studies and the Impact Project Working Paper: IP-57; Centre of Policy Studies and the Impact Project, Monash University, Clayton, Victoria, Australia 3168. **PG** 29. **PR** not available. **JE** C68, D58. **KW** Production Functions. General Equilibrium. MONASH Model.

AB The paper describes the implementation for the MONASH model of a scheme for flexible nesting of production functions. The scheme supports substitution in production between different commodities and between commodities and primary factors, which the standard ORANI production system does not. Thus it supports more flexible functional forms than standard ORANI. More importantly, this treatment supports not just a single functional form but a wide variety of functional forms, built up by the nesting of CES aggregator functions. The number of CES aggregator functions, their membership, and the depth of nesting are all arbitrary. These features of the nesting structure are now specified. Thus the production structure can readily be modified to meet the special requirements of individual applications. We illustrate the use of the flexible nesting treatment with an application to inter-fuel and energy-capital substitution.

PD June 1993. **TI** Short-Run Effects of a Carbon Tax. **AA** Monash University. **SR** Centre of Policy Studies and the Impact Project Working Paper: G-100; Centre of Policy Studies and the Impact Project, Monash University, Clayton, Victoria, Australia 3168. **PG** 32. **PR** not available. **JE** Q28, Q48, C68. **KW** Environmental Policy. General Equilibrium. Carbon Tax. Australia.

AB This paper presents estimates of short-run sectoral and economy-wide effects of the introduction of a carbon tax in Australia. The results are derived using an enhanced version of the ORANI multi-sectoral model of the Australian economy. We simulate the introduction of a carbon tax at a rate of 1991-92 $25 per ton, designed to achieve the Toronto target of a 20 percent reduction in carbon dioxide emissions below the 1988 level by 2005. We find that the macroeconomic impact would depend critically on the extent to which price rises flowed through into wage rates. Assuming fixed money wages, real GDP would be decreased by an estimated 0.9 percent, and employment by 1.2 percent. To maintain a given employment level in the face of the carbon tax would require a reduction in the foreign-currency-equivalent wage rate estimated at 2.8 percent. This would also entail a decrease in the real wage rate (defined with respect to the consumption price deflator) of 2.8 percent. Government could promote lower wage outcomes by returning the carbon tax revenue to the community through reductions in other taxes. Enhancements to ORANI used in this simulation include disaggregation of the fossil fuel sector and provision for carbon taxation.

PD December 1993. **TI** Energy Taxes and Greenhouse Gas Emissions in Australia. **AA** Monash University. **SR** Centre of Policy Studies and the Impact Project Working Paper: G-104; Centre of Policy Studies and the Impact Project, Monash University, Clayton, Victoria, Australia 3168. **PG** 34. **PR** not available. **JE** Q28, Q48. **KW** Energy Tax. Environmental Policy. General Equilibrium.

AB A feature of recent policy discussion both in Australia and overseas has been a heightened interest in energy taxes and fuel taxes of various kinds. These taxes have been advocated on various grounds, notably their role in discouraging greenhouse gas emissions. At the same time, at least in Australia, greenhouse policy discussion has been redirected more towards small-scale sector-specific interventions, and away from economy-wide measures such as a carbon tax. In this context it becomes of interest to ask, how effective might an energy tax be in reducing carbon emissions? Here we use the term energy tax to mean fossil fuel taxes excluding carbon taxes. A carbon tax is levied on carbon dioxide emissions or some closely related basis, while an energy tax is levied on some other basis such as energy content. The paper presents simulation results designed to address these questions. The simulations are performed using the ORANI model of the Australian economy, in a version containing several energy-specific enhancements. These include greater detail on energy production and use in the database, and a wider range of substitution possibilities in energy production and use in the theoretical structure.

McKelvey, Richard D.

PD August 1994. **TI** The Maximal Number of Regular Totally Mixed Nash Equilibria. **AU** McKelvey, Richard D.; McLennan, Andrew. **AA** McKelvey: California Institute of Technology. McLennan: University of Minnesota. **SR** University of Minnesota Center for Economic Research Discussion Paper: 272; Department of Economics, 1035 Management and Economics, University of Minnesota, 271 19th Avenue South, Minneapolis, MN 55455. **PG** 14. **PR** no charge. **JE** C72. **KW** Normal Form Game. Nash Equilibria. Regular Equilibrium.

AB not available.

McKenney, Mary S.

TI Estimating the Effects of Climate Change and Carbon Dioxide on Water Supplies in the Missouri River Basin. **AU** Frederick, Kenneth D.; McKenney, Mary S.; Rosenberg, Norman J.; Balzer, Daniel K.

McLennan, Andrew

TI The Maximal Number of Regular Totally Mixed Nash Equilibria. **AU** McKelvey, Richard D.; McLennan, Andrew.

PD August 1994. **TI** The Maximal Generic Number of Pure Nash Equilibria. **AA** University of Minnesota. **SR** University of Minnesota Center for Economic Research Discussion Paper: 273; Department of Economics, 1035 Management and Economics, University of Minnesota, 271 19th Avenue South, Minneapolis, MN 55455. **PG** 3. **PR** no charge. **JE** C72. **KW** Normal Form Game. Pure

Equilibria.
AB not available.

Meagher, G. A.

PD July 1993. **TI** Some Short-Run Implications of Fightback: A General Equilibrium Analysis. **AU** Meagher, G. A.; Parmenter, Brian R. **AA** Monash University. **SR** Centre of Policy Studies and the Impact Project Working Paper: G-101; Centre of Policy Studies and the Impact Project, Monash University, Clayton, Victoria, Australia 3168. **PG** 46. **PR** not available. **JE** D58, E62, H21. **KW** Fightback. Taxation. Employment. Macroeconomic Effects.
AB We report ORANI projections of the short-run effects on the macroeconomy and the industrial structure of the main elements of the Fightback proposals, namely the proposed abolition of the wholesale sales tax, petroleum excise and the payroll tax, proposed cuts in income taxes and government outlays, and the proposed introduction of the good and services tax. In making the projections, we assume (with Fightback) that nominal wage rates are unaffected. We also assume that private domestic aggregate demand moves in line with changes in disposable income. These fiscal changes fall into two main groups--changes in indirect taxes which affect relative prices directly, and changes to income tax rates and government outlays which have their direct impacts on the level and commodity composition of domestic demand.

PD December 1993. **TI** Forecasting Changes in Income Distribution: An Applied General Equilibrium Approach. **AA** Monash University. **SR** Centre of Policy Studies and the Impact Project Working Paper: OP-78; Centre of Policy Studies and the Impact Project, Monash University, Clayton, Victoria, Australia 3168. **PG** 23. **PR** not available. **JE** D31, D33, D58, C68. **KW** Forecasting. Income Distribution. General Equilibrium.
AB Forecasts of changes in income distribution that rely entirely on modeling changes in the personal characteristics of individuals, as is typically the case in microsimulation studies, have a limited capacity to take into account developments that affect individuals only indirectly through the operation of markets. Most individuals receive most of their income in the form of factor payments (i.e., wages and profits). Hence a distributional forecast will be improved if it is informed by a well constructed forecast of changes in factor markets and their associated commodity markets. This paper is primarily concerned with the development of techniques for applying an existing set of detailed economic forecasts for the Australian economy to the question of distribution. The centerpiece of the forecasting system is a large dynamic applied general equilibrium model, the MONASH model. Via the markets incorporated in the MONASH model, a range of otherwise intractable information is brought to bear on a forecast of income changes over the period 1990-91 to 1996-97.

PD December 1993. **TI** The International Comparison Project as a Source of Private Consumption Data for a Global Input-Output Model. **AA** Monash University. **SR** Centre of Policy Studies and the Impact Project Working Paper: IP-62; Centre of Policy Studies and the Impact Project, Monash University, Clayton, Victoria, Australia 3168. **PG** 22. **PR** not available. **JE** C67, C81, F17, O21. **KW** Consumption Data. Input-Output Model. Consumption Patterns.
AB In 1989 a major project entitled "Strategies for Environmentally Sound Economic Development" was inaugurated under the sponsorship of the United Nations. This project is designed to identify ways of alleviating pressures on the global environment and, at the same time, raise the standard of living of the poorest countries. The central component of its analytical framework is a dynamic global input-output model (GIOM) that describes trade between 15 regions in about 50 commodities, taking as its starting point the well known 1977 World Input-Output Model of Leontief, Carter, and Petri.

Mendoza, Enrique G.

TI Do Long-Run Productivity Differentials Explain Long-Run Real Exchange Rates? **AU** Asea, Patrick K.; Mendoza, Enrique G.

Menon, Jayant

PD July 1993. **TI** Exchange Rate Pass-Through Elasticities for the MONASH Model: A Disaggregate Analysis of Australian Manufactured Imports. **AA** Monash University. **SR** Centre of Policy Studies and the Impact Project Working Paper: OP-76; Centre of Policy Studies and the Impact Project, Monash University, Clayton, Victoria, Australia 3168. **PG** 48. **PR** not available. **JE** F31, F32, F17. **KW** Exchange Rate. Pass-Through. Australia.
AB The objective of this study is to analyze the exchange rate pass-through relationship for Australian imports of manufactures covering the period 1981q3 to 1991q2. The analysis is conducted in two stages. First, pass-through coefficients are estimated for total manufactures and 50 product categories contained therein. This is done by applying an econometric procedure which avoids the pit-falls in previous studies to a carefully assembled data set. Particular attention is paid to dealing with the time series properties of the data. Second, the determinants of inter-product differences in the degree of pass-through is analyzed. This is done by relating the pass-through coefficients to a series of variables representing foreign control, non-tariff barriers (NTB's), product characteristics, and market structure within a cross-section regression framework. A number of interesting results emerge from the analysis. First, pass-through is incomplete for most products, with significant differences in the degree of pass-through across products. Second, recursive estimation rejects the hypotheses of the "hysteresis" effect in Australian import prices, and the asymmetric pass-through of exchange rate depreciations and appreciations in all cases. Finally, the results suggest that quantitative restrictions, foreign control, concentration, product differentiation, and the import share of the domestic market are negatively related to pass-through, where as the substitutability between imported and domestically produced goods is positively related to pass-through.

PD July 1993. **TI** Import Price and Activity Elasticities for the MONASH Model: Johansen FIML Estimation of Cointegration Vectors **AA** Monash University. **SR** Centre of Policy Studies and the Impact Project Working Paper: IP-58; Centre of Policy Studies and the Impact Project, Monash University, Clayton, Victoria, Australia 3168. **PG** 35. **PR** not available. **JE** F11, F14, C43. **KW** Trade. Elasticities. Cointegration. MONASH Model.
AB This study investigates the relationship between manufactured import flows to Australia and relative prices and domestic economic activity over the period 1981q3 to 1992q2.

This is done through the estimation of import demand functions for total manufactured imports and 29 import product categories defined at the 2-digit level of the AICC by employing the Johansen FIML procedure. The price and activity elasticities will form part of the elasticity files of the MONASH Model, currently being developed at the Centre of Policy Studies. The price elasticities range from 0.24 to 1.75, with a weighted-average of 0.60. We also find evidence of upward bias in price elasticity estimates when an aggregate import function is employed in a context where variation in prices of individual products are negatively correlated with their price elasticities, and when a significant portion of imports are subject to quantitative restrictions (QR's). The unit activity elasticity hypothesis was accepted for one third of our sample. The majority of activity elasticities are greater than one, and usually closer to two.

PD July 1993. **TI** Exchange Rate Pass-Through: Theory and Evidence. **AA** Monash University. **SR** Centre of Policy Studies and the Impact Project Working Paper: IP-59; Centre of Policy Studies and the Impact Project, Monash University, Clayton, Victoria, Australia 3168. **PG** 48. **PR** not available. **JE** F31, F32, F17. **KW** Pass-Through. Trade Balances. Foreign Exchange.
AB The resilience of trade balances of the major industrialized economies to changes in their exchange rates has evoked interest in the exchange rate pass-through relationship. So far, there has not been a comprehensive survey of this literature. The paper aims to fill this gap in two ways. First, it pieces together the theoretical literature on exchange rate pass-through. Second, it provides a critical survey of the empirical literature on exchange rate pass-through. Emphasis is placed on the data and methodology employed in previous work. This is done in order to guide future work in this growing area of research.

PD July 1993. **TI** Exchange Rate Pass-Through for Australian Manufactured Imports: Estimates From the Johansen Maximum-Likelihood Procedure. **AA** Monash University. **SR** Centre of Policy Studies and the Impact Project Working Paper: IP-60; Centre of Policy Studies and the Impact Project, Monash University, Clayton, Victoria, Australia 3168. **PG** 10. **PR** not available. **JE** F31, F32, F17. **KW** Pass-Through. Cointegration. Australia.
AB This paper estimates exchange rate pass-through for Australian manufactured imports by applying an econometric procedure which avoids the pit-falls in previous studies to a carefully assembled data set. For the first time, we provide estimates of pass-through based on the Johansen (1988) ML procedure. Our finding of incomplete pass-through has important implications for policy and the macroeconomy. Incomplete pass-through brings into question the validity of the "small" country assumption and the exogeneity of the terms of trade with respect to exchange rate changes. We may also have to reconsider the extent of the apparent inflationary (deflationary) consequences of exchange rate depreciations (appreciations), and the effects of exchange rate variability on international trade flows.

Metcalf, Gilbert E.

TI Investment With Uncertain Tax Policy: Does Random Tax Policy Discourage Investment? **AU** Hassett, Kevin; Metcalf, Gilbert E.

Meyer, Bruce D.

TI Unemployment Insurance Benefits and Takeup Rates.
AU Anderson, Patricia M.; Meyer, Bruce D.

TI The Ethnic and Racial Character of Self-Employment.
AU Fairlie, Robert W.; Meyer, Bruce D.

Michaely, Roni

PD June 1994. **TI** Price Reactions to Dividend Initiations and Omissions: Overreaction or Drift? **AU** Michaely, Roni; Womack, Kent; Thaler, Richard H. **AA** Michaely and Womack: Cornell University. Thaler: Cornell University and National Bureau of Economic Research. **SR** National Bureau of Economic Research Working Paper: 4778; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PG** 27. **PR** $5.00. **JE** G32, G35, G12, G14. **KW** Corporate Finance. Dividend Payments. Price Reaction.
AB Initiations and omissions of dividend payments are important changes in corporate financial policy. This paper investigates the market reaction to such changes in terms of prices, volume, and changes in clientele. Consistent with the prior literature we find that short run price reactions to omissions are greater than for initiations (-7.0% versus +3.4% three day return). However, we show that, when we control for the change in the magnitude of dividend yield (which is larger for omissions), the asymmetry shrinks or disappears, depending on the specification. In the 12 months after the announcement (excluding the event calendar month), there is a significant positive market-adjusted return for firms initiating dividends of +7.5% and a significant negative market-adjusted return for firms omitting dividends of -11.0%. However, the post dividend omission drift is distinct from and more pronounced than that following earnings surprises. A trading rule employing both samples (long in initiation stocks and short in omission stocks) earns positive returns in 22 out of 25 years. Although these changes in dividend policy might be expected to produce shifts in clientele, we find little evidence for such a shift. Volume increases, but only slightly and briefly, and there are not important changes in institutional ownership.

Miller, Andrew B.

PD September 1993. **TI** Toward a Theory for Transitional Economies. **AA** Resources for the Future. **SR** Resources for the Future, Energy and Natural Resources Division Discussion Paper: ENR93-21; Energy and Natural Resources Division, Resources for the Future, 1616 P Street, NW., Washington, DC 20036. **PG** 42. **PR** $3.00 prepaid (U.S. funds only). **JE** O11, P52. **KW** Transitional Economies. Eastern Europe. Central Europe.
AB This work is an initial review of the transitional economies in Central and Eastern Europe and an attempt to synthesize what positive analyses have emerged into a theory of transitional economics. By drawing on the literature emphasizing the areas of shortage economies, evolutionary economics, information and organization, game theory, and political economy as useful avenues for further exploration, some common theoretical underpinnings are exposed. Together with these insights some additional considerations such as the influence of external institutions, population attitudes, power and informational advantages of administrators, and income distribution issues will be infused. A general framework describing individual, firm, and market interaction in light of these issues is sought.

Milner, Helen

PD June 1993. **TI** Domestic Politics and International Cooperation: A Signaling Model. **AU** Milner, Helen; Rosendorff, B. Peter. **AA** Milner: Columbia University. Rosendorff: University of Southern California. **SR** University of Southern California Arthur Andersen Working Paper Series: 9311; Department of Economics, University of Southern California, University Park, Los Angeles, CA 90089-0253. **PG** 40. **PR** no charge. **JE** D72, D78, F13, F42. **KW** Domestic Politics. Divided Government. International Cooperation. Bargaining. Signaling.
AB Over the past five decades, extensive cooperation has persisted among the industrial countries. Most theories of international politics can only partially, if at all, explain this. Their weakness is that states are treated as unitary actors, and domestic politics is ignored. A general theory of the conditions under which states will cooperate requires consideration of domestic politics. Our goal is to present a formal model revealing how domestic politics affects international cooperation. Our model examines the interaction between international negotiations and domestic politics. It focuses on the structure of domestic actors' preferences, the beliefs of political actors, and the degree of internal divisions as explanatory factors. We try to systematize the counterintuitive argument that more domestic divisions may increase the president's or prime minister's international bargaining capabilities. Generally, we demonstrate how domestic divisions affect international negotiations; in particular, we examine the effects of "divided government" on the substance of international agreements. We also seek to illuminate the extent of autonomy of the executive in foreign negotiations, given the constraints of the domestic political system. We show, first, in many cases international agreement is less likely when domestic actors are more divided. Second, the degree of autonomy available to the executive depends on the beliefs of the legislature about the nature of the international agreement negotiated by the executive and the structure of domestic preferences. In many cases, the conventional wisdom that increases in the divisions among domestic actors augment the degree of executive autonomy does not hold. The degree of executive autonomy is a function of the type of cleavages in domestic politics, not just in their magnitude.

Mingo, John J.

TI The Efficiency of Bank Branches. **AU** Berger, Allen N.; Leusner, John H.; Mingo, John J.

Mintz, Jack

TI U.S. Interest Allocation Rules: Effects and Policy. **AU** Altshuler, Rosanne; Mintz, Jack.

Mitchell, Robert C.

TI Contingent Valuation and Lost Passive Use: Damages From the Exxon Valdez. **AU** Carson, Richard T.; Mitchell, Robert C.; Hanemann, W. Michael; Kopp, Raymond J.; Presser, Stanley; Ruud, Paul A.

Moghadam, Reza

PD May 1994. **TI** Why is Unemployment in France So High? **AA** International Monetary Fund. **SR** International Monetary Fund Working Paper: WP/94/58; International Monetary Fund, 700 19th Street, Washington, DC 20431. **PG** 35. **PR** not available. **JE** E24, J31, J32, J38, J64. **KW** Unemployment. Labor Market. France.
AB High and persistent unemployment, as well as its composition (e.g., high youth unemployment), suggests underlying structural problems in the French labor market. Comparisons with other industrial countries, as well as time series and cross-section empirical evidence, point to a number of potential causes of structural unemployment in France. These include the generosity of long-term relative to short-term unemployment benefits, the minimum wage, the level of employers' tax wedge, skills mismatch, and the cost of capital. The paper assesses recent labor market measures in France that are considered, on the whole, as a step in the right direction, and puts forward a number of additional possible measures which could help to ensure that when the economic recovery gathers pace, unemployment will decline more quickly and more substantially than in the past.

Moore, Michael O.

PD June 1994. **TI** Steel Protection in the 1980's: The Waning Influence of Big Steel? **AA** George Washington University. **SR** National Bureau of Economic Research Working Paper: 4760; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PG** 58. **PR** $5.00. **JE** L61, L13, L14, F13. **KW** Steel Industry. Trade Agreements. Import Protection.
AB The U.S. integrated steel industry has been very successful in securing import protection over the last 20 years. Critical to that success has been a cohesive coalition of steel producers, the steelworkers' union, and "steel-town" congressional representatives. The political strength of this coalition has diminished substantially over the last decade as the integrated steel industry has restructured and as domestic minimills have played an increasingly important role in the U.S. steel sector. In addition, an effective domestic coalition of steel-using industries acted as a critical counterweight beginning with the fight over a VRA extension in 1989. After 1989, quotas on steel were non-binding and the industry was largely unsuccessful in obtaining antidumping duties in its 1993 unfair trade petitions. These factors point to a diminished ability of the integrated steel industry to obtain special trade agreements in the future.

Morck, Randall

TI Rent Seeking and Protectionism in the American Steel Industry: An Empirical Analysis. **AU** Lenway, Stefanie; Morck, Randall; Yeung, Bernard.

Mountain, Dean C.

TI A Framework for Regional Modeling and Impact Analysis--An Analysis of the Demand for Electricity by Large Municipalities in Ontario, Canada. **AU** Hsiao, Cheng; Mountain, Dean C.

Mullahy, John

PD February 1993. **TI** Employment, Unemployment, and Problem Drinking. **AU** Mullahy, John; Sindelar, Jody L. **AA** Mullahy: Trinity College and Resources for the Future. Sindelar: Yale University. **SR** Resources for the Future, Quality of the Environment Division Discussion Paper: 93-06; Quality of the Environment Division, Resources for the Future, 1616 P Street, NW., Washington, DC 20036. **PG** 52. **PR** $3.00 prepaid (U.S. funds only). **JE** I12, J24, C51. **KW** Alcoholism. Problem Drinking. Unemployment. Labor

Supply.
AB Since the misuse of alcoholic beverages ("problem drinking") has been demonstrated repeatedly to result in enormous economic costs--on the order of $150 billion in the U.S. annually--it is reasonable to hypothesize that successful prevention efforts in this sphere may be quite cost-effective. Since most of the costs of problem drinking have been shown to be manifested in the labor market, what is needed to assess the potential merits of prevention policies are estimates of the structural relationships between problem drinking and the labor market outcomes of interest. To date, however, the literature has basically been concerned with reduced form estimates or "hybrid" estimates that may not properly control for various forms of econometric endogeneity. The purpose of this paper is to present some sound structural estimates of the relationship between various measures of problem drinking and various measures of employment and labor market participation. The sample of approximately 15,000 observations is drawn from the 1988 National Health Interview Survey, the first dataset that enables nationally-representative estimates of alcohol abuse and dependence consistent with generally accepted medical criteria. The structural estimates of the effects of problem drinking on employment and labor market participation are obtained using methods proposed by Amemiya and by Heckman and MaCurdy.

PD April 1993. **TI** Instrumental Variable Estimation of Poisson Regression Models. **AA** Trinity College, Resources for the Future, and National Bureau of Economic Research. **SR** Resources for the Future, Quality of the Environment Division Discussion Paper: 93-12; Quality of the Environment Division, Resources for the Future, 1616 P Street, NW., Washington, DC 20036. **PG** 30. **PR** $3.00 prepaid (U.S. funds only). **JE** C29, C39. **KW** Poisson Regression. Instrumental Variables. Heterogeneity.
AB Poisson regression models have become increasingly popular in applied microeconometrics and have been implemented in a variety of problems where the dependent variable is nonnegative. As is the case for virtually all econometric models applied to microdata, applications of Poisson models must account for the presence of unobserved heterogeneity. To date, the Poisson model literature in econometrics has focused mainly on the case where the unobserved heterogeneity (theta) and the measured regressors (x) are statistically independent, i.e. h(theta|x)=h(theta). For many applications, however, this independence assumption is tenuous at best. When the unobserved heterogeneity is more akin to "omitted regressors correlated with x," then standard estimation methods will, in general, not be consistent. While alternative consistent estimators may be available in special circumstances, it is suggested here that the most promising and most general estimation strategy is likely to be a nonlinear instrumental variable (IV) or generalized method of moments (GMM) approach. It is shown that the key orthogonality conditions required for consistency of nonlinear IV estimators are unlikely to obtain when the residual function is specified, as might seem natural, as y-exp(x*alpha). The transformation approach proposed here provides a general solution to this problem.

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

Murphy, Paul
TI The Structure of an Environmental Transaction: The Debt-for-Nature Swap. **AU** Deacon, Robert T.; Murphy, Paul.

Mussa, Michael
TI Issues Concerning Nominal Anchors for Monetary Policy. **AU** Flood, Robert P.; Mussa, Michael.

Mutti, John
PD March 1994. **TI** Section 337 and the Protection of Intellectual Property in the United States: The Complainants and the Impact. **AU** Mutti, John; Yeung, Bernard. **AA** Mutti: Grinnell College. Yeung: University of Michigan. **SR** University of Michigan Research Forum on International Economics Discussion Paper: 350; Professor Robert M. Stern, Institute of Public Policy Studies, University of Michigan, 440 Lorch Hall, Ann Arbor, MI 48109-1220. **PG** 28. **PR** $4 (U.S. Funds) for shipping and handling (checks should be payable to: IPPS. Enclose with order). **JE** F13, O34. **KW** Section 337. Intellectual Property. Imports.
AB Under Section 337 of the Tariff Act of 1930 a firm can challenge imports that infringe its U.S. intellectual property rights. This paper examines the characteristics of firms that file complaints under Section 337. Our results indicate that Section 337 appears to protect industry leaders instead of laggards, a contrast to other trade measures. With respect to the disposition of a case, a finding of no violation has a significant effect in depressing the profitability and sales of the filing firm compared to others in the industry. Peer firms also appear to lose from greater foreign competition. While Section 337 appears to protect innovators, its impact on expenditures on innovation is complicated and no clear-cut relation emerges.

Myers, Stewart C.
TI Testing Static Trade-Off Against Pecking Order Models of Capital Structure. **AU** Shyam-Sunder, Lakshmi; Myers, Stewart C.

Narasimhan, Chakravarthi
TI The Impact of Manufacturer Advertising on Retail and Wholesale Margins. **AU** Lal, Rajiv; Narasimhan, Chakravarthi.

Narayanan, V. G.
TI Inventory Rules, Taxation and Institutions' Trading Decisions. **AU** Huddart, Steven; Narayanan, V. G.

Nelson, Douglas R.
PD May 1994. **TI** The Political-Economy of U.S. Automobile Protection. **AA** Tulane University. **SR** National Bureau of Economic Research Working Paper: 4746; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PG** 56. **PR** $5.00. **JE** L62, F13, F15. **KW** Trade Protection. Auto Industry. Economic Integration.
AB This paper examines the political process through which the U.S. auto industry pursued and ultimately received protection from Japanese competition. Following a brief review of research on the competitiveness of the industry (section II) and on the effects of protection on industry performance (section III), it is not at all obvious that trade protection was the

most effective policy response to the industry's economic problems. The remainder of the paper argues that the industry's political strategy reflects a response to a crisis in the political-economic regime regulating relations among the major interests in the U.S. auto industry. To make this argument, section IV develops the notion of a sectoral regime and applies it to the auto industry. Section V develops the argument further suggesting that conditions in the industry constituted a regime crisis and reexamines the industry's pursuit of aggressive trade policy toward Japanese producers in this context. Section VI illustrates the usefulness of this perspective by examining the politics of North American integration from the perspective of the auto industry. Section VII concludes.

Neumark, David

TI Training and the Growth of Wage Inequality. **AU** Constantine, Jill M.; Neumark, David.

Neumeyer, Pablo A.

TI Seigniorage and Inflation: The Case of Argentina. **AU** Kiguel, Miguel A.; Neumeyer, Pablo A.

Nickell, Eric

TI The Benefits of Ambient Air Quality Improvements in Central and Eastern Europe: A Preliminary Assessment. **AU** Krupnick, Alan J.; Harrison Kenneth; Nickell, Eric; Toman, Michael.

TI The External Costs of Nuclear Power: Ex Ante Damages and Lay Risks. **AU** Krupnick, Alan J.; Markandya, Anil; Nickell, Eric.

Noguchi, Haruko

TI Effectiveness of Government Policy: An Experience From a National Health Care System. **AU** Yamada, Tetsuji; Kim, Chang Gun; Yamada, Tadashi; Noguchi, Haruko.

Nugent, Jeffrey B.

TI The Role of Barter Trade in Promoting Non-Traditional Exports: A Note on the Egyptian Experience. **AU** Abdel-Latif; Abla M.; Nugent, Jeffrey B.

PD March 1993. **TI** Institutional Arrangements in Cattle-Raising Activities in the Nineteenth Century American West and Their Explanation. **AU** Nugent, Jeffrey B.; Sanchez, Nicolas. **AA** Nugent: University of Southern California. Sanchez: College of the Holy Cross. **SR** University of Southern California Arthur Andersen Working Paper Series: 9313; Department of Economics, University of Southern California, University Park, Los Angeles, CA 90089-0253. **PG** 38. **PR** no charge. **JE** N41, N51, Q15. **KW** Weather Variability. Property Rights. Animal Husbandry.

AB The dominant explanation for the various land pooling arrangements that existed in the 19th Century American West is that private property in land for purposes of cattle raising was rendered unfeasible by the artificial restrictions on the creation of private property rights. This paper develops an alternative explanation based on the suitability of such arrangements to the various other environmental conditions then prevailing in the region. It demonstrates that the alternative explanation is more consistent with the details of such arrangements, the timing of their eventual decline, and their spatial distribution, than the existing one.

Nyarko, Yaw

TI The Bayesian Foundations of Learning by Doing. **AU** Jovanovic, Boyan; Nyarko, Yaw.

Oates, Wallace E.

TI Toward an Integrated Theory of Open Economy Environmental and Trade Policy. **AU** Panagariya, Arvind; Palmer, Karen; Oates, Wallace E.; Krupnick, Alan J.

PD November 1993. **TI** Environmental Regulation and International Competitiveness: Thinking About the Porter Hypothesis. **AU** Oates, Wallace E.; Palmer, Karen; Portney, Paul R. **AA** Oates: University of Maryland. Palmer and Portney: Resources for the Future. **SR** Resources for the Future Discussion Paper: 94-02; Resources for the Future, 1616 P Street, N.W., Washington, D.C. 20036. **PG** 29. **PR** $3.00 (prepaid, U.S. funds only). **JE** Q28, F13. **KW** Competitiveness. Environmental Regulation. Research and Development.

AB There has been widespread concern that the increasing stringency of domestic environmental regulation will put home-based industries at a competitive disadvantage in the international marketplace. According to this view, the increased costs that accompany more stringent controls will mean that domestic firms must confront their competitors abroad subject to an "unfair" burden. This seemingly straightforward contention has recently been disputed by Michael Porter. The "Porter hypothesis" (as we will refer to it) claims that stringent regulations need not be a disadvantage, but that they can actually work in favor of domestic industry and enhance its competitive position in world markets. Porter limits his claim to regulations that are outcome oriented, instead of technology specific, and thereby provide the flexibility to encourage firms to seek out new technologies as a means of compliance. In this paper we explore the Porter hypothesis from a variety of perspectives, both theoretical and empirical, to see whether regulation can enhance rather than reduce competitiveness. We present a simple economic model (of the sort used in analyses of innovation in pollution control) in which the Porter hypothesis is shown to be false. The model essentially formalizes the basic point that the addition (or tightening) of constraints on a firm's set of choices cannot be expected to result in a higher level of profits. With this point established, we turn to a consideration of various kinds of extensions to the basic model that might give the Porter hypothesis some validity. These extensions include: (1) strategic behavior involving interactions between polluting firms and between these firms and the regulating agency; (2) the presence of an industry that produces abatement technology and equipment as its output that for some reason has been overlooked and that somehow becomes realized in the wake of new and tougher environmental regulations. We find that the case for the hypothesis rests largely on the existence of some "slack"--that is, some pre-existing opportunities for cost-savings or profitable produce enhancement that have, for some reason, gone unrealized.

Ollinger, Michael

PD June 1994. **TI** Regulation and Firm Size, Foreign-Based Company Market Presence, Merger Choice in the U.S. Pesticide Industry. **AU** Ollinger, Michael; Fernandez-Cornejo, Jorge. **AA** U.S. Department of Agriculture. **SR** Bureau of the Census Center for Economic Studies Discussion Paper: 94-6; Center for Economic Studies, Bureau of the Census, Washington, DC 20233. **PG** 33. **PR** $8.25. **JE** F23, L51, Q13. **KW** Pesticide Industry. Regulation. Firm Size. Multinational Companies.

AB This paper uses Two-Stage Least Squares to examine the impact of pesticide product regulation on the number of firms and the foreign-based company market share of U.S. Pesticide Companies. It also investigates merger choice with a multinomial logit model. The principal finding is that greater research and regulatory costs affected small innovative pesticide companies more than large ones and encouraged foreign company expansion in the U.S. pesticide market. It was also found that the stage of the industry growth cycle and farm sector demand influenced the number of innovative companies and foreign-based company market share. Finally, firms that remain in the industry were found to have greater price cost margins, lower regulatory penalties costs, and a much greater multinational business presence than those that departed.

Oppers, Stefan E.

PD March 1994. **TI** Was the Worldwide Shift to Gold Inevitable? An Analysis of the End of Bimetalism. **AA** University of Michigan. **SR** University of Michigan Research Forum on International Economics Discussion Paper: 351; Professor Robert M. Stern, Institute of Public Policy Studies, University of Michigan, 440 Lorch Hall, Ann Arbor, MI 48109-1220. **PG** 41. **PR** $4 (U.S. Funds) for shipping and handling (checks should be payable to: IPPS. Enclose with order). **JE** N13, E42. **KW** Gold Standard. Bimetalism. Monetary System.

AB This paper analyzes the causes and consequences of the universal switch from bimetallism to a gold standard in the early 1870's. It shows that the sole cause for the fall in silver prices after 1871 was the German move from silver to gold, and that the subsequent restriction of free silver coinage in Belgium and France was unnecessary; continued free silver coinage in the Latin Union would have reduced the share of gold in the Union's monetary system only marginally. Continued adherence to bimetallism could have avoided much of the deflation in the gold standard world in the 1870's.

Orden, David

PD July 1994. **TI** Agricultural Interest Groups and the North American Free Trade Agreement. **AA** Virginia Polytechnic Institute and State University. **SR** National Bureau of Economic Research Working Paper: 4790; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PG** 63. **PR** $5.00. **JE** F13, F14, Q17. **KW** NAFTA. Agriculture. Tariffs. Exports.

AB This paper evaluates the influence of diverse U.S. agricultural interest groups on the North American Free Trade Agreement (NAFTA). Under NAFTA, licenses and quotas that restricted agricultural trade between Mexico and the United States were converted to tariffs in January 1994 and all tariffs are to be phased out over adjustment periods of up to 15 years. The agricultural provisions of the 188 Canada-U.S. FTA, which left quantitative barriers intact for dairy, poultry, and other sectors, remain in effect for bilateral Canadian-U.S. trade. NAFTA received support from export-oriented U.S. producers of most grains, oilseeds, livestock, and some horticultural products. Opposition was expressed by wheat producers, seeking leverage on Canadian export-pricing issues, and protected sugar, peanut, and winter fruit and vegetable producers. The opposition was not addressed in the side agreements negotiated by the Clinton administration but the agricultural commodity groups were able to bargain for accommodations in the subsequent legislative debate. Final concessions protect U.S. sugar from Mexican competition, provide some transition protection to winter fruits and vegetables, and ensnare the United States in disputes about Canadian exports of wheat and peanut butter. With these concessions, NAFTA results in essentially no reform of entrenched domestic agricultural support programs in the United States (or Canada) during the lengthy tariff phase-out periods.

Oswald, Andrew J.

TI Estimating a Wage Curve for Britain 1973-1990. **AU** Blanchflower, David G.; Oswald, Andrew J.

Padmanabhan, V.

PD September 1993. **TI** Returns Policies: An Under Appreciated Marketing Variable. **AU** Padmanabhan, V.; Png, I. P. L. **AA** Padmanabhan: Stanford University. Png: University of Science and Technology, Hong Kong. **SR** Stanford Graduate School of Business Research Paper: 1268; Graduate School of Business, Stanford University, Stanford, CA 94305-5015. **PG** 23. **PR** no charge. **JE** M11, M31. **KW** Returns Policies. Marketing. Management.

AB Returns policies are widely used in the marketing of products and services. That they do much more than provide insurance is, however, not well known. In this paper, we develop a number of other rationales for distributor and consumer returns policies. We develop these motivations through application of insights from various theories in marketing and economics. These rationales are incorporated into a general framework to provide managers with qualitative insights on the adoption and implementation of returns policies. The framework identifies the benefits that returns policies provide to manufacturers, distributors, and customers. We also discuss the consequences of returns policies, and compare them to alternative marketing strategies.

TI Why do We Observe Minimal Warranties? **AU** Lutz, Nancy A.; Padmanabhan, V.

PD May 1994. **TI** Manufacturer's Returns Policies and Retail Competition. **AU** Padmanabhan, V.; Png, I. P. L. **AA** Padmanabhan: Stanford University. Png: University of Science and Technology, Hong Kong. **SR** Stanford Graduate School of Business Research Paper: 1294; Graduate School of Business, Stanford University, Stanford, CA 94305-5015. **PG** 24. **PR** no charge. **JE** D21, M11, M31. **KW** Returns Policies. Price Competition.

AB Throughout the world, returns policies are widespread in distribution. They are usually justified as a way of insuring retailers against excess inventory. We demonstrate that returns policies can increase manufacturer profitability even in the absence of any insurance motivation. A returns policy enables a manufacturer to influence competition among downstream retailers. Specifically, when primary demand is uncertain, the policy leads to higher retail stocks, less retail price competition, and a higher wholesale price. If production costs are sufficiently low and primary demand uncertainty is not too large, a returns policy will raise the manufacturer's profit.

PD May 1994. **TI** Product Introduction Strategy to Signal Network Externality. **AU** Padmanabhan, V.; Rajiv, Surendra;

Srinivasan, Kannan. **AA** Padmanabhan: Stanford University. Rajiv and Srinivasan: Carnegie-Mellon University. **SR** Stanford Graduate School of Business Research Paper: 1295; Graduate School of Business, Stanford University, Stanford, CA 94305-5015. **PG** 30. **PR** no charge. **JE** M11, M31, D62. **KW** Network Externality. Signaling. Heterogeneity. Pricing.

AB The benefits from using a computer software, and hence the willingness of a customer to pay for it, often depends on the number of other customers using the same software. These benefits have been referred to in the literature as "network externalities". In addition to application software, network externalities are an important consideration in the marketing of many other high-tech products. We analyze the marketing implications for new product introduction strategies for markets characterized by network externalities. We show that the pattern of the product introduction strategy depends critically on the consumer knowledge of network externalities. A simultaneous launch strategy is optimal for the firm when there is no informational asymmetry between the firm and the consumer about the network externality associated with the product. On the contrary, a sequential launch strategy, wherein the manufacturer launches the product in the first period and then markets upgrades and new releases in subsequent periods, is optimal when consumers are unaware of the externality associated with a product. In this situation, the sequential product introduction strategy becomes a vehicle for information transmission. We show that the consumer can accurately infer the externality associated with the product by observing the launch strategy. This result is derived under conditions of customer heterogeneity. In short, this research posits a potential explanation for sequential product introduction based on efficiency arguments. This is in contrast to arguments that rely on exogenous factors such as technological shocks, quality improvements, cost reductions and/or competitive forces for motivating sequential product introduction.

Pahre, Robert

PD March 1994. **TI** "Who's on First, What's on Second": Actors and Institutions in Two-Level Games. **AA** University of Michigan. **SR** University of Michigan Research Forum on International Economics Discussion Paper: 352; Professor Robert M. Stern, Institute of Public Policy Studies, University of Michigan, 440 Lorch Hall, Ann Arbor, MI 48109-1220. **PG** 55. **PR** $4 (U.S. Funds) for shipping and handling (checks should be payable to: IPPS. Enclose with order). **JE** C72. **KW** Game Theory. International Politics. Two-Level Games.

AB Putnam's seminal article on "two-level games" has spawned many studies examining the interaction between international and domestic politics. While most of these study who the players are, they have been much less concerned about what the rules of these games might be. This essay proposes a taxonomy of institutional rules in two-level games. I argue that all such games fall into the category of "ratification" games, "two-level optimization" games, or "no-confidence" games. I then present two formal models that show the importance of these institutional differences. Hypotheses on the possibility of agreement and the distribution of benefits from agreement depend critically on the domestic institutional form. I also show that we may think of many institutional rules as endogenous, as the plausible choice of either governments or publics. Because of the variety of other institutional forms, I conclude that Putnam's ratification metaphor is not always the most appropriate conceptualization of two-level games.

Palia, Darius

TI Executive Pay and Performance: Evidence From the U.S. Banking Industry. **AU** Hubbard, R. Glenn; Palia, Darius.

Palmer, Karen

PD May 1992. **TI** Social Costing of Electricity and the Benefits of Demand-Side Management. **AA** Resources for the Future. **SR** Resources for the Future, Quality of the Environment Division Discussion Paper: 92-19; Quality of the Environment Division, Resources for the Future, 1616 P Street, NW., Washington, DC 20036. **PG** 26. **PR** $3.00 prepaid (U.S. funds only). **JE** Q28, Q41, Q48, L94. **KW** Social Costs. Externalities. Electric Utilities. Demand-Side Management. Dispatch.

AB Social costing is the regulatory practice of incorporating the external costs and benefits of electricity generation into electric utilities' resource decisions. Using a utility dispatch and planning model, we investigate the implications of different social costing regimes for the avoided generation and investment costs of four different DSM programs: two capacity-saving and two energy-saving. Our findings suggest that the actual impacts of social costing on the benefits of DSM depend on the type of DSM program being analyzed, on the scope of the social costing regulation, and on the external costs associated with different methods of generation. In the absence of social costing, both energy-saving and capacity-saving DSM programs have positive private, external and social benefits. In general, the social benefits of both capacity-saving and energy-saving DSM are higher under a social cost dispatch regime than with no social costing. However, the social benefits of both forms of DSM under a planning regime may fall below the social benefits with no social costing. Moreover, capacity-saving DSM may have negative external benefits (external cost savings) under both planning and social cost dispatch regimes. With negative external benefits, the private benefits of DSM exceed the social benefits and the utility may have a socially inefficiently high incentive to invest in DSM.

TI Toward an Integrated Theory of Open Economy Environmental and Trade Policy. **AU** Panagariya, Arvind; Palmer, Karen; Oates, Wallace E.; Krupnick, Alan J.

TI Environmental Regulation and International Competitiveness: Thinking About the Porter Hypothesis. **AU** Oates, Wallace E.; Palmer, Karen; Portney, Paul R.

TI How Should an Accumulative Toxic Substance be Banned? **AU** Toman, Michael; Palmer, Karen.

PD July 1994. **TI** An Analysis of Alternative Approaches to Implementing Social Costing of Electricity in Maryland. **AU** Palmer, Karen; Krupnick, Alan J.; Dowlatabadi, Hadi; Siegel, Stuart. **AA** Palmer and Krupnick: Resources for the Future. Dowlatabadi and Siegel: Carnegie Mellon University. **SR** Resources for the Future Discussion Paper: 94-39; Resources for the Future, 1616 P Street, N.W., Washington, D.C. 20036. **PG** 65. **PR** $6.00. **JE** Q48, Q28, Q25, Q41. **KW** Social Costing. Electricity. Externalities.

AB Many state public utility commissions (PUC's) have started to require electric utilities to consider environmental and other externalities in their utility planning and resource evaluation processes. To date social costing has been applied exclusively to the evaluation of new resources as a means of identifying the lowest social cost option for meeting a given increment in electricity demand. However, more comprehensive approaches to social costing are possible. These approaches include requiring the utility to dispatch both new and existing generating units according to social cost or going so far as to require electricity consumers to pay a price for electricity that reflects its full social cost. Using estimates of external costs taken from the literature, this study contrasts the implications of these three different approaches (and small variations on each of the first two) for utility decision making, electricity prices, demand for electricity and other fuels and the net emissions of selected pollutants for a Maryland utility. We find that applying social costing at the investment stage only may lead to reduced investment in new resources, increased use of existing generation resources and higher emissions of key pollutants. Applying social costing to dispatch of existing resources generally leads to increased levels of investment in clean technologies, lower levels of emissions, and only moderate price increases. Also, across most of the external costs considered, social costing of electricity has a small impact on demand for natural gas.

Palmquist, Raymond B.

TI Temporal Substitution and the Recreational Value of Coastal Amenities. **AU** Smith, V. Kerry; Palmquist, Raymond B.

Panagariya, Arvind

PD June 1993. **TI** Toward an Integrated Theory of Open Economy Environmental and Trade Policy. **AU** Panagariya, Arvind; Palmer, Karen; Oates, Wallace E.; Krupnick, Alan J. **AA** Panagariya: World Bank and University of Maryland. Oates: University of Maryland and Resources for the Future. Palmer and Krupnick: Resources for the Future. **SR** Resources for the Future, Quality of the Environment Division Discussion Paper: 93-07; Quality of the Environment Division, Resources for the Future, 1616 P Street, NW., Washington, DC 20036. **PG** 38. **PR** $3.00 prepaid (U.S. funds only). **JE** F11, Q28. **KW** International Trade. Environmental Policy. Pollution Spillovers.

AB With the evolution of the world economy, it is becoming increasingly clear that international trade and the global environment are inextricably linked. In consequence, it is no longer possible to formulate trade policies without considering their environmental ramifications. But this is only half the story. Domestic environmental programs have, themselves, impacts on patterns of trade and the global environment. Domestic programs for pollution control affect the relative prices of tradable goods and services; they may also influence the flow of pollutants across national boundaries. In this paper, we develop an integrated model of international trade and environmental flows using the dual approach. This model offers a fully general equilibrium approach and, unlike previous models, allows the incorporation of a variable abatement technology. We use this model to analyze optimal trade and environmental policies under a number of different assumptions about a country's influence on world markets and about the extent of cross-border pollution spillovers. We also analyze the strategic interactions between countries in the setting of domestic environmental policies. Our findings suggest that the optimal trade and pollution policies in the presence of cross-border spillovers to the domestic country depend on whether an emissions fee or a quantity constraint on emissions is employed in the foreign country. Both domestic tariffs and domestic pollution fees will tend to be higher when the foreign country employs an emissions fee than when it adopts an emissions cap. Our model also confirms earlier findings that optimal domestic pollution policies in an open economy setting can differ from the traditional Pigouvian tax even in the absence of cross-border pollution spillovers, and that the traditional optimal tariff must be modified to account for its environmental effects.

Papell, David H.

TI The Great Wars, the Great Crash, and the Unit Root Hypothesis: Some New Evidence About an Old Stylized Fact. **AU** Ben-David, Dan; Papell, David H.

Parmenter, Brian R.

TI Some Short-Run Implications of Fightback: A General Equilibrium Analysis. **AU** Meagher, G. A.; Parmenter, Brian R.

Parsley, David C.

PD May 1994. **TI** Insignificant and Inconsequential Hysteresis: The Case of U.S. Bilateral Trade. **AU** Parsley, David C.; Wei, Shang-Jin. **AA** Parsley: Vanderbilt University. Wei: Harvard University and National Bureau of Economic Research. **SR** National Bureau of Economic Research Working Paper: 4738; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PG** 14. **PR** $5.00. **JE** F11, F14, F31. **KW** Hysteresis Hypothesis. Trade Deficit. Exchange Rates.

AB This paper casts doubt on the validity of the hysteresis hypothesis as an explanation of the persistent U.S. trade deficits in the 1980's. We propose two tests to investigate two different implications of the hypothesis. The first implication is that cumulative changes in exchange rates, in addition to current exchange rate levels, are important determinants of trade flows. The second implication is that foreign exporting firms' perceptions of exchange rate volatility will affect their decision to enter or exit the market. We find little support for either aspect of the hysteresis hypothesis.

Paulsen, Charles M.

TI Dollars and Sense Under the Endangered Species Act: Incorporating Diverse Viewpoints in Recovery Planning for Pacific Northwest Salmon. **AU** Hyman, Jeffrey B.; Wernstedt, Kris; Paulsen, Charles M.

PD September 1993. **TI** Two Essays on Water Quality in Central and Eastern Europe. **AU** Paulsen, Charles M.; Fejerdy-Dobolvi, Hajna. **AA** Paulsen: Resources for the Future. Fejerdy-Dobolvi: American University. **SR** Resources for the Future, Energy and Natural Resources Division Discussion Paper: ENR93-20; Energy and Natural Resources Division, Resources for the Future, 1616 P Street, NW., Washington, DC 20036. **PG** 40. **PR** $3.00 prepaid (U.S. funds only). **JE** Q25, Q28. **KW** Water Quality. Eastern Europe. Central Europe.

AB The first essay examines the design of source-control policies for point sources of water pollution in Central and Eastern Europe (CEE) with an emphasis on policies that will meet ambient water quality targets cost-effectively. Paulsen argues that cost-effective policies are difficult to implement, and that the direction of water pollution control policy is made unclear by economic restructuring in CEE. Nevertheless, the cost savings from more efficient policies can be large, so such policies warrant serious consideration. The second essay reviews the state of knowledge regarding water quality in Hungary. The facts she presents indicate that pollutants continued to accumulate in Hungary's surface waters during the 1980's from increased water use, despite the declining percentage of waste water going untreated. Ambient water quality standards in Hungary also are significantly lower than typical Western practice. The current economic restructuring does appear to be relaxing pressures on Hungarian water quality, but this could be reversed when economic growth resumes.

TI Cost-Effective Water Quality Management Strategies in Central and Eastern Europe. **AU** Somlyody, L.; Paulsen, Charles M.

Pearson, K. R.

TI Solving Applied General Equilibrium Models Represented as a Mixture of Linearized and Levels Equations. **AU** Harrison, W. Jill.; Pearson, K. R.; Powell, Alan A.; Small, E. John.

Peck, Suzanne

TI A Guide to R&D Data at the Center for Economic Studies U.S. Bureau of the Census. **AU** Adams, James D.; Peck, Suzanne.

Peress, Eric

TI Taxes and Fringe Benefits Offered by Employers. **AU** Gentry, William M.; Peress, Eric.

Peter, Matthew W.

PD December 1993. **TI** The Use of the ORANI Model in the Immigration Debate. **AA** Monash University. **SR** Centre of Policy Studies and the Impact Project Working Paper: G-103; Centre of Policy Studies and the Impact Project, Monash University, Clayton, Victoria, Australia 3168. **PG** 8. **PR** not available. **JE** C68, E65, F22. **KW** Trade Balance. Real Wages. Unemployment.

AB Since 1985, a number of influential studies on the economic effects of immigration have been based on the ORANI model of the Australian economy. The results have generally been interpreted as showing that the economic effects of immigration are favorable. Critics of the use of ORANI argue that the model's results are too dependent on assumptions built into the model or imposed for particular experiments. This paper considers the influence of the assumptions on the results in the studies and reports results from simulations with alternative assumptions.

Peterson, Steven R.

TI Environmental Regulation and International Competitiveness: What Does Evidence Tell Us? **AU** Jaffe, Adam B.; Peterson, Steven R.; Portney, Paul R.; Stavins, Robert N.

Pezzey, John

TI Neoclassical Economic Growth Theory and "Sustainability". **AU** Toman, Michael; Pezzey, John; Krautkraemer, Jeffrey.

Phelan, Christopher

TI Reconsidering the Costs of Business Cycles With Incomplete Markets. **AU** Atkeson, Andrew; Phelan, Christopher.

Pingali, Prabhu L.

TI Pesticides, Productivity, and Farmer Health: A Philippine Case Study. **AU** Antle, John M.; Pingali, Prabhu L.

Png, I. P. L.

TI Returns Policies: An Under Appreciated Marketing Variable. **AU** Padmanabhan, V.; Png, I. P. L.

TI Manufacturer's Returns Policies and Retail Competition. **AU** Padmanabhan, V.; Png, I. P. L.

Poggio, Tomaso

TI A Nonparametric Approach to Pricing and Hedging Derivative Securities Via Learning Networks. **AU** Hutchinson, James M.; Poggio, Tomaso; Lo, Andrew W.

Portney, Paul R.

TI Environmental Regulation and International Competitiveness: Thinking About the Porter Hypothesis. **AU** Oates, Wallace E.; Palmer, Karen; Portney, Paul R.

TI Environmental Regulation and International Competitiveness: What Does Evidence Tell Us? **AU** Jaffe, Adam B.; Peterson, Steven R.; Portney, Paul R.; Stavins, Robert N.

Poterba, James M.

TI Congressional Distributive Politics and State Economic Performance. **AU** Levitt, Steven D.; Poterba, James M.

PD May 1994. **TI** The Distribution of Public Sector Wage Premia: New Evidence Using Quantile Regression Methods. **AU** Poterba, James M.; Rueben, Kim S. **AA** Poterba: Massachusetts Institute of Technology and National Bureau of Economic Research. Rueben: Massachusetts Institute of Technology. **SR** National Bureau of Economic Research Working Paper: 4734; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PG** 24. **PR** $5.00. **JE** J31, J45. **KW** Wage Differential. Public Sector Premium.

AB This paper documents the changing pattern of wage differentials between state and local government employees and their private sector counterparts during the 1979-1992 period. While the relative wages of women employed in the two sectors changed very little during this period, the relative wages of men employed in the state and local sector rose nearly 8%. There is substantial heterogeneity in the changes in relative wages of public and private sector employees during the 1980's. For highly educated workers, private sector wages rose significantly faster than public sector wages, while for those with at most a high school education, the public sector wage premium increased. We present both least squares and quantile regression estimates of the public sector premium. While the level of this premium is sensitive to our choice of quantile, the change in the premium, and the estimated pattern across skill levels, is not substantially affected by varying the quantile.

Powell, Alan A.

TI Solving Applied General Equilibrium Models

Represented as a Mixture of Linearized and Levels Equations. **AU** Harrison, W. Jill.; Pearson, K. R.; Powell, Alan A.; Small, E. John.

PD November 1993. **TI** Integrating Econometric and Environmetric Modelling. **AA** Monash University. **SR** Centre of Policy Studies and the Impact Project Working Paper: G-102; Centre of Policy Studies and the Impact Project, Monash University, Clayton, Victoria, Australia 3168. **PG** 12. **PR** not available. **JE** C68, C51, Q20. **KW** Environmental Modeling. General Equilibrium. Environmental Policy.

AB This paper is organized around brief accounts of two modeling initiatives, one with an Australian focus and the other with a global focus, which have contributed to the policy debate about greenhouse gas abatement. The Australian study involved the combined use of an energy technology programming model, MENSA/MARKAL, with an applied general equilibrium model of the Australian economy, ORANI-F. This interfaced suite of models was used to inform the Australian government's consultations on environmentally sustainable development. The second study involves the Global 2100 model, which also uses a mathematical programming model of energy technology, but couples it to a macro, rather than an applied general equilibrium model. The latter study is one of several, each based on a different model, used as an input to OECD deliberations on greenhouse. After giving brief accounts of the interfaces between the environmetric and economic component modules of ORANI-F, MENSA/MARKAL and of Global 2100 and a synopsis of what insights into global warming have come out of these models, I set out my ideas about how better interfaces between econometric and environmetric models can be achieved. These suggestions relate more to the "culture" of modeling than to technicalities. It seems that the technical (often model-specific) problems encountered at the interfaces will be more tractable if everyone involved adopts the same computer modeling language and standards of documentation. Modellers from both sides will have to discipline themselves to keep their component models down to a size that allows the interfaced system to be solved using computer resources that are routinely available.

Praschnik, J.

PD September 1992. **TI** Are Labor Shares Really Constant? An International Study of the Cyclical Behavior of Labor Shares. **AU** Praschnik, J.; Costello, Donna M. **AA** Praschnik: University of Western Ontario. Costello: University of Florida. **SR** University of Western Ontario Department of Economics Research Report: 9207; Department of Economics, Social Sciences Center, University of Western Ontario, London, Ontario, CANADA N6A 5C2. **PG** 28. **PR** Canada $7.00; Elsewhere $9.00. **JE** C32, E32, J64. **KW** Labor Market. Business Cycle.

AB This paper conducts an international investigation of the cyclical behavior of labor shares. Contrary to what many past studies have found for the behavior of labor shares, simple statistics and estimated VARs suggest that the labor share is not constant nor countercyclical, but behaves in a procyclical manner lagging both output and employment. Our findings are at odds with many models of the macroeconomy which assume or predict that the labor share is constant or countercyclical.

Quintyn, Marc

PD May 1994. **TI** Government Securities versus Central Bank Securities in Developing Open Market Operations--Evaluation and Need for Coordinating Arrangements. **AA** International Monetary Fund. **SR** International Monetary Fund Working Paper: WP/94/62; International Monetary Fund, 700 19th Street, Washington, DC 20431. **PG** 33. **PR** not available. **JE** E52, E58, E61, E63. **KW** Monetary Policy. Open Market Operations. Financial Reform.

AB In an indirect monetary policy framework, open market operations become the central bank's main instrument. In the initial stages, when financial markets are still undeveloped, selection of a financial instrument for those operations and the design of supporting arrangements to ensure the central bank's operational autonomy when using the instrument, are crucial issues. Based on theoretical arguments and experience of a sample of countries that embarked on financial reforms, this paper argues that government securities are the preferred instrument because of their better capacity to develop financial markets. The use of government securities, however, requires the most complex supporting arrangements.

Quinzii, Martine

TI Infinite Horizon Incomplete Markets. **AU** Magill, Michael; Quinzii, Martine.

TI Incomplete Markets Over an Infinite Horizon: Long-Lived Securities and Speculative Bubbles. **AU** Magill, Michael; Quinzii, Martine.

Rajiv, Surendra

TI Product Introduction Strategy to Signal Network Externality. **AU** Padmanabhan, V.; Rajiv, Surendra; Srinivasan, Kannan.

Reid, John W.

TI Valuing Biodiversity: An Application to Genetic Prospecting. **AU** Simpson, R. David; Sedjo, Roger A.; Reid, John W.

Reiss, Peter C.

PD May 1994. **TI** Transaction Costs in Dealer Markets: Evidence From the London Stock Exchange. **AU** Reiss, Peter C.; Werner, Ingrid M. **AA** Reiss: Stanford University and National Bureau of Economic Research. Werner: Stanford University. **SR** National Bureau of Economic Research Working Paper: 4727; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PG** 22. **PR** $5.00. **JE** G12, G14. **KW** Transaction Cost. Stock Exchange. Bid-Ask Spread.

AB This paper describes regularities in the intraday spreads and prices quoted by dealers on the London Stock Exchange. It develops a measure of spread-related transaction costs, one that recognizes dealers' willingness to price trades within their quoted spreads. This measure of transaction costs shows that trading costs are systematically related to a trade's size, characteristics of the trading counter parties, and security characteristics. Customers pay the full spread on small trades while medium to large trades receive more favorable execution. Market makers only discount very large customer trades while dealers regularly discount medium to large trades. Inter-dealer trades generally receive favorable execution, and discounts increase in size. Market makers do not discount trades with each other over the phone, but do discount when trading anonymously using inter-dealer-brokers. Quoted and touch spreads are falling in the number of market makers. The rate of decline is interpreted as reflecting economies of scale in market making.

Reklis, Diane M.

TI Mathematical Achievement in Eighth Grade: Interstate and Racial Differences. **AU** Fuchs, Victor R.; Reklis, Diane M.

Ries, John

TI Agglomeration Benefits and Location Choice: Evidence From Japanese Manufacturing Investment in the United States. **AU** Head, Keith; Swenson, Deborah; Ries, John.

Rimmer, Maureen T.

TI Water Pricing and Investment in Melbourne: General Equilibrium Analysis With Uncertain Streamflow. **AU** Horridge, J. Mark; Dixon, Peter B.; Rimmer, Maureen T.

Romer, Christina D.

PD June 1994. **TI** What Ends Recessions? **AU** Romer, Christina D.; Romer, David H. **AA** University of California, Berkeley and National Bureau of Economic Research. **SR** National Bureau of Economic Research Working Paper: 4765; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PG** 57. **PR** $5.00. **JE** E32, E52, E62. **KW** Economic Recovery. Monetary Policy. Fiscal Policy.

AB This paper analyzes the contributions of monetary and fiscal policy to postwar economic recoveries. We find that the Federal Reserve typically responds to downturns with prompt and large reductions in interest rates. Discretionary fiscal policy, in contrast, rarely reacts before the trough in economic activity, and even then the responses are usually small. Simulations using multipliers from both simple regressions and a large macroeconomic model show that the interest rate falls account for nearly all of the above-average growth that occurs early in recoveries. Our estimates also indicate that on several occasions expansionary policies have contributed substantially to above-normal growth outside of recoveries. Finally, the results suggest that the persistence of aggregate output movements is largely the result of the extreme persistence of the contribution of policy changes.

Romer, David H.

TI What Ends Recessions? **AU** Romer, Christina D.; Romer, David H.

Rose, Nancy L.

PD April 1994. **TI** Firm Diversification and CEO Compensation: Managerial Ability or Executive Entrenchment? **AU** Rose, Nancy L.; Shepard, Andrea. **AA** Rose: Massachusetts Institute of Technology and National Bureau of Economic Research. Shepard: Stanford University and National Bureau of Economic Research. **SR** National Bureau of Economic Research Working Paper: 4723; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PG** 33. **PR** $5.00. **JE** J31, J44, M11. **KW** Executive Compensation. Managerial Performance.

AB Data for a sample of 558 CEO's over 1985-1990 suggest substantial compensation premia for managers of diversified firms. The CEO of a firm with two distinct lines of business averages 10 to 12 percent more in salary and bonus and 13 to 17 percent more in total compensation than the CEO of a similar-sized but undiversified firm, all else equal. This corresponds to average 1990 salary gains of $115,000 to $145,000 per year for our sample. Diversification may raise pay because the CEO's job requires higher ability or because it is associated with CEO entrenchment. If ability explains the correlation, we would expect the diversification premium to be invariant to tenure. Entrenchment models suggest higher premia for more experienced (more entrenched) CEO's, and an increase in compensation when the CEO diversifies the firm. The data support an ability model over an entrenchment explanation. The diversification premium is unaffected by tenure, and increasing diversification reduces compensation for incumbent CEO's, all else equal.

Rosen, Harvey S.

TI Recent Developments in the Marriage Tax. **AU** Feenberg, Daniel R.; Rosen, Harvey S.

Rosen, Sherwin

PD July 1994. **TI** The New Economics of Teachers and Education. **AU** Rosen, Sherwin; Flyer, Frederick D. **AA** Rosen: University of Chicago. Flyer: New York University. **SR** Economics Research Center/NORC Discussion Paper: 94-1; Economics Research Center/NORC, 1155 E. 60th Street, Chicago, IL 60637. **PG** 28. **PR** $2.00; send requests to Librarian, NORC. **JE** I21, J16, J22. **KW** Education. Wages. Child Bearing.

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

Rosenberg, Norman J.

TI Estimating the Effects of Climate Change and Carbon Dioxide on Water Supplies in the Missouri River Basin. **AU** Frederick, Kenneth D.; McKenney, Mary S.; Rosenberg, Norman J.; Balzer, Daniel K.

Rosendorff, B. Peter

PD April 1993. **TI** Voluntary Export Restraints and

Bargaining. **AA** University of Southern California. **SR** University of Southern California Arthur Andersen Working Paper Series: 9310; Department of Economics, University of Southern California, University Park, Los Angeles, CA 90089-0253. **PG** 29. **PR** no charge. **JE** F13, D72, D73. **KW** Voluntary Export Restraints. Endogenous Tariffs. GATT. Bargaining. Signaling.

AB In a bargaining game with signaling between a foreign exporter and the local regulating authority, an endogenous Voluntary Export Restraint (VER) characterizes the sequential equilibrium as the alternative to the imposition of a tariff may induce the regulating agency to agree to the VER and obtain trade protection for the local industry. If the agency can credibly threaten to impose a severe restraining tariff, a voluntary undertaking by the foreign exporter to reduce its penetration into the local market is offered and accepted.

TI Domestic Politics and International Cooperation: A Signaling Model. **AU** Milner, Helen; Rosendorff, B. Peter.

Ruback, Richard S.

TI The Valuation of Cash Flow Forecasts: An Empirical Analysis. **AU** Kaplan, Steven N.; Ruback, Richard S.

Rueben, Kim S.

TI The Distribution of Public Sector Wage Premia: New Evidence Using Quantile Regression Methods. **AU** Poterba, James M.; Rueben, Kim S.

Ruttan, Vernon W.

TI Cultural Endowments, Institutional Renovation and Technical Innovation: The "Groupements Naam" of Yatenga, Burkina Faso. **AU** Smale, Melinda; Ruttan, Vernon W.

Saffer, Henry

PD April 1994. **TI** Alcohol Advertising And Motor Vehicle Fatalities. **AA** National Bureau of Economic Research. **SR** National Bureau of Economic Research Working Paper: 4708; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PG** not available. **PR** $5.00. **JE** D12, J10, K34, M37. **KW** Advertising. Motor Vehicle Fatalities. Alcoholic Beverages.

AB The purpose of this paper is to empirically estimate the effect of alcohol advertising on motor vehicle fatalities. The concept of an industry level advertising response function is developed and other empirical issues in estimating the effects of advertising are reviewed. The data set consists of quarterly observations, from 1986 to 1989, for 75 advertising markets in the United States and includes 1200 observations. Since motor vehicle fatalities and alcohol advertising are jointly determined, Two Stage Least Squares is used in the estimation. Reduced form fatality models and advertising models are also estimated to predict the effect of changes in the price of advertising. The regression results show that alcohol advertising has a significant and positive effect on motor vehicle fatalities. The data and regression results are used to estimate the effects of two policy options. The first option is to ban all broadcast alcohol advertising. The data indicate that if a ban on broadcast alcohol advertising did not also include bans on other types of alcohol marketing, the effect on motor vehicle fatalities might be in the range of 2000 to 3000 lives saved per year. The second policy is the elimination of the tax deductibility of alcohol advertising. This policy could reduce alcohol advertising by about 27 percent, reduce motor vehicle fatalities by about 2300 deaths per year and raise about $336 million a year in new tax revenue.

Salant, Stephen W.

TI Managing Municipal Solid Waste: Advantages of the Discriminating Monopolist. **AU** Macauley, Molly K.; Salant, Stephen W.; Walls, Margaret A.; Edelstein, David.

PD January 1993. **TI** Hoarding and Hibernation in Response to the Onset of Winter. **AU** Salant, Stephen W.; Kalat, Karen; Wheatcroft, Ana. **AA** University of Michigan. **SR** Resources for the Future, Energy and Natural Resources Division Discussion Paper: ENR93-07; Energy and Natural Resources Division, Resources for the Future, 1616 P Street, NW., Washington, DC 20036. **PG** 36. **PR** $3.00 prepaid (U.S. funds only). **JE** D61, A12. **KW** Hoarding. Optimization. Efficiency.

AB This paper explains the seasonal hoarding behavior of sexually-active female mammals in response to the increased scarcity of food regularly accompanying winter. Animals can store food internally as fat or externally as stockpiles. Fitness is assumed to be strictly increasing in the size of the stockpile available when the next offspring arrive but may also depend on the mother's body weight then. Consequently, any seasonal time paths of behaviors which maximize fitness must--given the mother's body weight when the litter arrives--also maximize the size of the stockpile available then. Assuming that (1) between successive periods some stockpiled food is irretrievable and (2) food is uniformly available before the onset of winter but uniformly less available afterwards, it is optimal to store nothing during the summer, add to storage at an increasing rate during the fall, and retrieve at a decreasing rate after winter arrives. Moreover, energy expended on food-related activity (foraging, additions to and withdrawals from storage) should optimally increase during the fall, drop at the onset of winter, and recover as spring approaches and the first post-winter litter arrives. Foraging is predicted to drop at the onset of winter; only if the change in food availability satisfies a specified condition, will it be optimal to cease foraging altogether for some interval of time (a behavior we label "hibernation"). Finally, females which are heavier when the litter arrives are predicted to have more surviving offspring. These theoretical predictions seem consistent with the empirical studies of squirrels we review.

TI Losses From the Complete Merger of First-Movers. **AU** Gaudet, Gerard; Salant, Stephen W.

Sanchez, Nicolas

TI Institutional Arrangements in Cattle-Raising Activities in the Nineteenth Century American West and Their Explanation. **AU** Nugent, Jeffrey B.; Sanchez, Nicolas.

Scharfstein, David S.

TI Internal Versus External Capital Markets. **AU** Gertner, Robert H.; Stein, Jeremy C.; Scharfstein, David S.

Schwabe, Kurt A.

TI Cross-Country Analyses Don't Estimate Health-Health Responses. **AU** Smith, V. Kerry; Epp, Donald J.; Schwabe, Kurt A.

Sedjo, Roger A.

TI Adverse Selection, Risk Aversion, and Costly Auditing: Implications for Contract Form and Vertical Integration. **AU** Simpson, R. David; Sedjo, Roger A.

PD February 1994. **TI** Global Forest Products Trade: The Consequences of Domestic Forest Land-Use Policy. **AU** Sedjo, Roger A.; Wiseman, A. Clark; Brooks, David J.; Lyon, Kenneth S. **AA** Sedjo: Resources for the Future. Wiseman: Gonzaga University. Brooks: U.S. Department of Agriculture. Lyon: Utah State University. **SR** Resources for the Future Discussion Paper: 94-13; Resources for the Future, 1616 P Street, N.W., Washington, D.C. 20036. **PG** 38. **PR** $3.00 (prepaid, U.S. funds only). **JE** Q23, Q21. **KW** Federal Lands. Harvest Restrictions.
AB This study examines the effects of a substantial reduction of North America timber supplies that is the likely outgrowth of the timber reductions in the U.S. west generated by timber harvest reduction on federal lands caused by environmental concerns such as those over the spotted owl and timber reductions on other lands that are the result of a tightening of the state forest practices acts in the various western states. This timber supply reduction is exacerbated by environmentally induced reductions in the Canadian province of British Columbia. The principal task of this study is to examine the likely impacts of timber reductions in North America on the global timber production system both in terms of probable affects on timber volumes and prices and to identify regions likely to experience timber harvest increases as the result of policy induced declines in North America. The study examines potential substitute sources for timber supplies no longer expected from western North America. Identification of these regions provides the basis of preliminary speculations as to the location and distribution of foreign environmental impacts associated with harvest reductions in North America.

TI Valuing Biodiversity: An Application to Genetic Prospecting. **AU** Simpson, R. David; Sedjo, Roger A.; Reid, John W.

PD March 1994. **TI** Changing Timber Supply and the Japanese Market. **AU** Sedjo, Roger A.; Wiseman, A. Clark; Brooks, David J.; Lyon, Kenneth S. **AA** Sedjo: Resources for the Future. Wiseman: Gonzaga University. Brooks: U.S. Department of Agriculture. Lyon: Utah State University. **SR** Resources for the Future Discussion Paper: 94-25; Resources for the Future, 1616 P Street, N.W., Washington, D.C. 20036. **PG** 34. **PR** $3.00 (prepaid, U.S. funds only).. **JE** Q23. **KW** Japan. Timber Demand.
AB The general objective of this study is to increase our understanding of the Japanese timber market. Specific objectives include the development of information on Japanese willingness to substitute a) between tropical and temperate wood; b) Siberian timber for timber from the U.S. Pacific northwest (PNW); and c) engineered wood products for traditional products no longer readily available from the PNW. The study provides a perspective on the strategic issues facing Japan in providing for its industrial wood needs within an institutional context. Two approaches are used to examine the nature of wood use and substitution in the Japanese market. The majority of the study uses an informal technical/descriptive or "engineering" approach. This is complemented by a brief statistical approach.

Shepard, Andrea

TI Firm Diversification and CEO Compensation: Managerial Ability or Executive Entrenchment? **AU** Rose, Nancy L.; Shepard, Andrea.

Shoven, John B.

TI A Stock Index Mutual Fund Without Net Capital Gains Realizations. **AU** Dickson, Joel M.; Shoven, John B.

Shyam-Sunder, Lakshmi

PD April 1994. **TI** Testing Static Trade-Off Against Pecking Order Models of Capital Structure. **AU** Shyam-Sunder, Lakshmi; Myers, Stewart C. **AA** Shyam-Sunder: Massachusetts Institute of Technology. Myers: Massachusetts Institute of Technology and National Bureau of Economic Research. **SR** National Bureau of Economic Research Working Paper: 4722; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PG** 19. **PR** $5.00. **JE** G31, G32, D23. **KW** Capital Structure. Debt Ratio. Financial Deficit.
AB This paper tests traditional capital structure models against the alternative of a pecking order model of corporate financing. The basic pecking order model, which predicts external debt financing driven by the internal financial deficit, has much greater explanatory power than a static trade-off model which predicts that each firm adjusts toward an optimal debt ratio. We show that the power of some usual tests of the trade-off model is virtually nil. We question whether the available empirical evidence supports the notion of an optimal debt ratio.

Siegel, Stuart

TI An Analysis of Alternative Approaches to Implementing Social Costing of Electricity in Maryland. **AU** Palmer, Karen; Krupnick, Alan J.; Dowlatabadi, Hadi; Siegel, Stuart.

Silverstein, Gerald

TI The Alternative Minimum Tax and the Behavior of Multinational Corporations. **AU** Lyon, Andrew B.; Silverstein, Gerald.

Simpson, R. David

PD February 1993. **TI** Adverse Selection, Risk Aversion, and Costly Auditing: Implications for Contract Form and Vertical Integration. **AU** Simpson, R. David; Sedjo, Roger A. **AA** Resources for the Future. **SR** Resources for the Future, Energy and Natural Resources Division Discussion Paper: ENR93-08; Energy and Natural Resources Division, Resources for the Future, 1616 P Street, NW., Washington, DC 20036. **PG** 27. **PR** $3.00 prepaid (U.S. funds only). **JE** L15, L22. **KW** Adverse Selection. Risk Aversion. Auditing. Contracts. Vertical Integration.
AB When the seller of a resource of uncertain value has private information, she may be required to reveal it. In many circumstances direct revelation may be impossible due to problems of credibility or appropriability. The seller may then be required to "put her money where her mouth is" by offering a contract in which she bears some risks herself; that is, she will offer a contract specifying royalities or other contingent payments. Such risk-sharing contracts may arise when a risk averse seller faces risk neutral buyers. They might also be chosen by a risk neutral seller who cannot costlessly observe the true value of the resource when the buyer discovers it. We

model both situations, identifying in each a separating equilibrium in which the seller's choice of royalty rates serves to reveal her private information concerning the resource's value. While the equilibria of both models are similar, different implications arise with respect to vertical integration. A risk averse seller would never want to develop her own resources rather than contracting with a buyer to do so, even if she suffers no cost disadvantage. To do so would be to accept all, rather than only a share, of the risks. On the other hand, a risk-neutral seller would always prefer to undertake all development operations herself if she can. Contracts may oblige her to undertake costly auditing activities.

PD May 1993. **TI** Taxing Variable Cost: Environmental Regulation as Industrial Policy. **AA** Resources for the Future. **SR** Resources for the Future, Energy and Natural Resources Division Discussion Paper: ENR93-12; Energy and Natural Resources Division, Resources for the Future, 1616 P Street, NW., Washington, DC 20036. **PG** 30. **PR** $3.00 prepaid (U.S. funds only). **JE** F12, L52, Q28. **KW** Environmental Regulation. Industrial Policy. Innovation. Cournot Models.

AB Some recent commentators have challenged the conventional wisdom that tough environmental policies will erode a nation's industrial competitiveness. If tough environmental regulation spurs innovation it may confer a long-run cost advantage. This view begs an important question, however. If cost-reducing plums are ripe for the picking, why do firms require the additional inducement of costly regulations to implement product and process improvements? In this paper I suggest a possible answer. If domestic and foreign firms are Cournot rivals, the strategic trade literature suggests that expansion in domestic production will induce a contraction in foreign production and a shift of rents from foreign to domestic producers. Public policies that penalize dirty production implicitly tax high-marginal-cost processes. Thus, such penalties will induce investment in technology that is both cleaner and more efficient. This increased production efficiency may then result in the (long-run, at least) profit-shifting described in the strategic trade literature. While it is possible to develop a model in which strong environmental policies do increase domestic welfare, it is not easy to do so. In fact, welfare enhancements in such cases might be rare exceptions. The direction and magnitude of effects may depend on a number of subtle factors and complex interactions. Arguments for the use of environmental policy as an instrument of strategic industrial policy are complicated, unparsimonious, and unreliable. Even if instances can be identified in which they might be valid, it may be extremely implausible to suppose that the necessary circumstances will obtain. Even if they do, other policy instruments, such as output or innovation subsidies, might be preferable.

PD December 1993. **TI** Optimal Pollution Taxation in a Cournot Duopoly. **AA** Resources for the Future. **SR** Resources for the Future Discussion Paper: 94-06; Resources for the Future, 1616 P Street, N.W., Washington, D.C. 20036. **PG** 13. **PR** $3.00 (prepaid, U.S. funds only). **JE** H23, L11. **KW** Cournot Duopoly. Pollution. Optimal Taxation.

AB It is well known that the optimal pollution tax in a competitive industry is equal to the marginal damage inflicted by the pollution. It has also been shown that the optimal pollution tax on a monopoly is less than the marginal damage. In this paper, I derive the optimal pollution tax for a Cournot duopoly. If firms have different production costs, the optimal tax rate may exceed the marginal damage. This is so because the tax may be an effective instrument for allocating production from the less to the more efficient firm. Some knowledge of the relative sizes of firms may help public policy makers in deciding on the optimal tax (or, more generally, regulation). A knowledge of firms' preferences may also be useful, although the tax preferred by a firm favoring higher pollution taxation may exceed that social optimum.

PD March 1994. **TI** Valuing Biodiversity: An Application to Genetic Prospecting. **AU** Simpson, R. David; Sedjo, Roger A.; Reid, John W. **AA** Resources for the Future. **SR** Resources for the Future Discussion Paper: 94-20; Resources for the Future, 1616 P Street, N.W., Washington, D.C. 20036. **PG** 32. **PR** $3.00 (prepaid, U.S. funds only). **JE** Q21, Q28. **KW** Biodiversity. Valuation. Genetic Prospecting.

AB There has been considerable recent interest in the potential of genetic prospecting both in generating new pharmaceutical products and as a mechanism for saving endangered ecosystems. It is unclear what values may arise from such activities, however. Evidence from existing observed transactions is incomplete. Existing theoretical investigations are flawed in their treatment of the probability of discovery of novel chemical compounds. In this paper we develop a simple model in which the "marginal species" may be redundant with respect to its potential as a source of new chemical leads. By optimizing the value of the marginal species with respect to the probability with which it yields a commercially successful product we are able to place an upper bound on its value. This upper bound may itself be relatively modest. Slight modifications in assumptions lead to drastic reductions in predicted value. We also extend our findings from the value of the marginal species to that of the marginal hectare of habitat by combining our results with a common model of the species-area relationship. We find that the incentives for habitat conservation generated by pharmaceutical research are, at best, very modest, and may be negligible.

Sims, Christopher A.

TI Toward a Modern Macroeconomic Model Usable for Policy Analysis. **AU** Leeper, Eric M.; Sims, Christopher A.

Sindelar, Jody L.

TI Employment, Unemployment, and Problem Drinking. **AU** Mullahy, John; Sindelar, Jody L.

Smale, Melinda

PD August 1994. **TI** Cultural Endowments, Institutional Renovation and Technical Innovation: The "Groupements Naam" of Yatenga, Burkina Faso. **AU** Smale, Melinda; Ruttan, Vernon W. **AA** Smale: International Maize and Wheat Improvement Center. Ruttan: University of Minnesota. **SR** University of Minnesota Economic Development Center Bulletin: 94-2; Department of Agricultural and Applied Economics, 232 Classroom Office Building, University of Minnesota, St. Paul, MN 55108. **PG** 34. **PR** no charge. **JE** O16, O31, Z10. **KW** Institutional Renovation. Technical Innovation. Mutual Assistance. Cultural Endowments.

AB The "Groupements Naam" movement represents an effort to rehabilitate or renovate traditional village level mutual assistance associations, the Rombi-Naam, of the Mossi people of Yatenga (Burkina Faso). The success of the effort suggests that: (a) cultural endowments shape the propensity of communities to build or reform institutions that can serve as vehicles for socio-economic development; (b) such renovated institutions can serve as effective instruments for the introduction of technical innovations; and (c) the fact that such institutions are renovated rather than transferred can increase the probability that such changes will be sustainable.

Small, E. John

TI Solving Applied General Equilibrium Models Represented as a Mixture of Linearized and Levels Equations. **AU** Harrison, W. Jill.; Pearson, K. R.; Powell, Alan A.; Small, E. John.

TI TABLO Input Files for the Stylized Johansen, Miniature ORANI and ORANI-F Models. **AU** Harrison, W. Jill; Small, E. John.

Smith, V. Kerry

PD April 1992. **TI** Welfare Effects, Omitted Variables, and the Extent of the Market. **AA** North Carolina State University and Resources for the Future. **SR** Resources for the Future, Quality of the Environment Division Discussion Paper: 92-16; Quality of the Environment Division, Resources for the Future, 1616 P Street, NW., Washington, DC 20036. **PG** 26. **PR** $3.00 prepaid (U.S. funds only). **JE** D58, D61, D63. **KW** Consumer Surplus. Residual Demand. General Equilibrium.
AB This paper offers an economic interpretation of Kling's finding that single price change measures of consumer surplus will provide an unbiased measure for a multiple price change, provided the prices are perfectly correlated. The explanation lies in recognizing that correlation in this case serves to define the commodity extent-of-the-market. Using this link, the paper demonstrates how the insights involved in defining general equilibrium demand functions or equivalently, residual demand models, can be adapted to fit the issues raised with travel cost models in accounting for the effects of substitutes. To illustrate the proposal, a comparison is offered between two different price-based ways of incorporating substitutes relative to the quantity-based residual demand framework proposed in the paper.

PD August 1992. **TI** Environmental Costing for Agriculture: Will It be Standard Fare in the Farm Bill for 2000? **AA** North Carolina State University and Resources for the Future. **SR** Resources for the Future, Quality of the Environment Division Discussion Paper: 92-22; Quality of the Environment Division, Resources for the Future, 1616 P Street, NW., Washington, DC 20036. **PG** 34. **PR** $3.00 prepaid (U.S. funds only). **JE** Q18, Q11. **KW** Environmental Costing. Green Taxes. Externalities.
AB In the past five years, tradable emissions permits have become an explicit part of the 1990 Clean Air Act Amendment, federal and state trustees of natural resources have begun to pursue damages for injuries from hazardous waste or oil releases (under the Superfund legislation and the Oil Pollution Act), and policy makers have recognized the potential for "green" taxes and market-like incentives for a wide range of domestic and international problems. Environmental costing is one of these "new" initiatives. To date, activities developing these cost estimates (as "adders") have focused primarily on electricity supply options. This paper describes attempts to estimate the environmental costs of three externalities of agricultural production: soil erosion, wetlands conversion, and groundwater contamination. Details of the estimates are presented by cost category and summarized across states in ten crop production regions. Limitations in the approaches used to calculate the estimates are discussed, along with the theory underlying environmental costing and some reasons for investigating how it is done that follow from these limitations.

PD February 1993. **TI** Lightning Rods, Dart Boards, and Contingent Valuation. **AA** North Carolina State University. **SR** Resources for the Future, Quality of the Environment Division Discussion Paper: 93-05; Quality of the Environment Division, Resources for the Future, 1616 P Street, NW., Washington, DC 20036. **PG** 40. **PR** $3.00 prepaid (U.S. funds only). **JE** D62, D63. **KW** Contingent Valuation. Nonuse Values. Visibility.
AB This paper is part of a compendium discussing what we actually know about the performance of the contingent valuation method for measuring the values people place on nonmarketed resources. After describing the strengths and weaknesses of alternative tests for the consistency between CVM responses and the predictions of economic theory, the evidence from laboratory and field experiments is reviewed. There is also a summary of the findings from two meta analyses of CVM estimates. The paper concludes with a review of the compatibility of the recommendations of the NOAA Panel on Contingent Valuation in relation to the available evidence on the method's performance.

PD April 1993. **TI** Temporal Substitution and the Recreational Value of Coastal Amenities. **AU** Smith, V. Kerry; Palmquist, Raymond B. **AA** North Carolina State University. **SR** Resources for the Future, Quality of the Environment Division Discussion Paper: 93-09; Quality of the Environment Division, Resources for the Future, 1616 P Street, NW., Washington, DC 20036. **PG** 21. **PR** $3.00 prepaid (U.S. funds only). **JE** R21, Q26, D43. **KW** Rental Property. Substitution. Vacation. Recreation.
AB This paper uses the three markets (peak, pre, and post season) for weekly rentals of vacation properties along The Outer Banks of North Carolina and the hedonic model to test whether coastal amenities influence the marginal rate of substitution for short-term displacement on the timing of recreation trips to the beach. Proximity to the ocean was found to be a significant determinant of temporal substitution between the peak and pre-peak seasons with ocean front properties having 1.9 to 4.7 percent smaller discounts for pre-season rentals relative to other properties.

PD June 1993. **TI** Can Markets Value Air Quality? A Meta-Analysis of Hedonic Property Value Models. **AU** Smith, V. Kerry; Huang, Ju-Chin. **AA** Smith: North Carolina State University and Resources for the Future. Huang: North Carolina State University and East Carolina University. **SR** Resources for the Future, Quality of the Environment Division Discussion Paper: 93-17; Quality of the Environment Division, Resources for the Future, 1616 P Street, NW., Washington, DC 20036. **PG** 24. **PR** $3.00 prepaid (U.S. funds only). **JE** Q25, C52. **KW** Meta-Analysis. Hedonic Models. Air Quality.
AB This paper reports the results of a statistical summary of estimates of the marginal willingness-to-pay for reducing particulate matter from hedonic property value models developed from 1967 to 1988. Estimator results from both

ordinary least squares and minimum absolute deviation are reported suggesting that market conditions and the procedures used to implement the hedonic models were important to the resulting estimates. These functions offer a basis for developing point estimates of the marginal willingness-to-pay for policy applications.

PD August 1993. **TI** Cross-Country Analyses Don't Estimate Health-Health Responses. **AU** Smith, V. Kerry; Epp, Donald J.; Schwabe, Kurt A. **AA** Smith: North Carolina State University and Resources for the Future. Epp: Pennsylvania State University. Schwabe: North Carolina State University. **SR** Resources for the Future, Quality of the Environment Division Discussion Paper: 93-20; Quality of the Environment Division, Resources for the Future, 1616 P Street, NW., Washington, DC 20036. **PG** 32. **PR** $3.00 prepaid (U.S. funds only). **JE** Q28, L51, O57. **KW** Health-Health. Averting Behavior. General Equilibrium.
AB Health-Health analysis has attracted considerable attention as one way to evaluate the costs of regulatory policy on people. When a regulation is adopted to reduce the "risk" experienced by a particular group, health-health analysis seeks to evaluate when the indirect effects of an increase in prices or reduction in income offsets the direct effects intended by the regulation. If these indirect effects are large enough then the general population can experience an increase in their overall risk. This paper considers health-health analysis as it relates to policy decisions from conceptual and empirical perspectives. A comparative static analysis with a simple model is used to illustrate the factors influencing the relative effects of income and policy variables on risk. The empirical analysis also suggests that results with aggregate cross-country data and simple reduced-form models for the relationship of mortality to income are sensitive to model specifications and the sample composition.

PD October 1993. **TI** Natural Resource Damage Liability: Lessons From Implementation and Impacts on Incentives. **AA** North Carolina State University. **SR** Resources for the Future Discussion Paper: 94-01; Resources for the Future, 1616 P Street, N.W., Washington, D.C. 20036. **PG** 44. **PR** $3.00 (prepaid, U.S. funds only). **JE** K32, Q21, Q28. **KW** Natural Resource Damages. Restoration. Contingent Valuation.
AB Natural resource damage liability (NRDL) has changed the role of economics for decisions involving natural and environmental economics. The statutes defining NRDL recognize these resources as natural assets. Monetary measures of their value are central in determining the liabilities facing parties held responsible for injuring them. This paper describes the issues raised by NRDL for: translating injuries into economic commodities, the use of contingent valuation, economic issues raised by restoration planning, and conventional evaluations of the incentive properties of liability rules.

TI Using Random Utility Models to Estimate the Recreational Value of Estuarine Resources. **AU** Kaoru, Yoshiaki; Smith, V. Kerry; Liu, Jin Long.

TI Calibrated Nonmarket Valuation. **AU** Eom, Young Sook; Smith, V. Kerry.

TI Implementing Thatcher's Full Repairing Lease: A CGE Analysis of the Role for Environmental Resources in Adjusting GDP. **AU** Espinosa, J. Andres; Smith, V. Kerry.

PD September 1994. **TI** Resource Evaluation at a Crossroads. **AA** Duke University. **SR** Resources for the Future Discussion Paper: 94-46; Resources for the Future, 1616 P Street, N.W., Washington, D.C. 20036. **PG** 68. **PR** $6.00. **JE** Q21, Q28, H41. **KW** Resource Evaluation. Applied Welfare Analysis. Policy Analysis.
AB Originally prepared as the basis for a shorter talk on emerging issues in resource and environmental economics for the 35th anniversary of Resources for the Future, this paper has been updated and expanded to include current literature including discussion of the controversy over the contingent valuation for estimating the economic value of environmental resources.

PD September 1994. **TI** Social Values for Education: Environment. **AA** Duke University. **SR** Resources for the Future Discussion Paper: 94-47; Resources for the Future, 1616 P Street, N.W., Washington, D.C. 20036. **PG** 68. **PR** $6.00. **JE** I21, H41, D62. **KW** Environmental Quality. Education. Risk Communication.
AB This paper considers the ways that education might influence the environmental quality that people experience. Education could accomplish these effects by promoting private behavior that enhances environmental quality for everyone, or by increasing people's effectiveness in protecting themselves from environmental externalities. An important reason for addressing these questions is to consider complementarities between different public sector activities that create public or mixed public-private goods. After reviewing the conceptual issues associated with modeling these types of relationships, the paper reviews the available empirical literature to determine if there is support for this type of linkage and reports some new findings of a link between risk information programs and education. The paper closes with a discussion of the policy implications of these types of relationships.

Somlyody, L.

PD December 1993. **TI** Cost-Effective Water Quality Management Strategies in Central and Eastern Europe. **AU** Somlyody, L.; Paulsen, Charles M. **AA** Somlyody: IIASA and Budapest University of Technology. Paulsen: Resources for the Future. **SR** Resources for the Future Discussion Paper: 94-05; Resources for the Future, 1616 P Street, N.W., Washington, D.C. 20036. **PG** 53. **PR** $3.00 (prepaid, U.S. funds only). **JE** C61, Q25, Q28. **KW** Water Quality. Eastern Europe. Economic Incentives.
AB Many countries in Central and Eastern Europe will be formulating new environmental regulations within the next few years. Among the many topics which these are likely to address is the formulation of control policies for waste-water dischargers, including municipal sewage treatment plants. In Western Europe and North America, standards have relied heavily upon so-called "best available technology" control policies, which require dischargers to use treatment technologies that reduce emissions of BOD, phosphorus, and nitrogen as much as is technically feasible. However, these technologies are often very expensive. Given the state of Central and Eastern European economies, less expensive methods to improve water quality should be seriously considered. In this paper, we investigate water pollution control technologies, water quality models, and optimization methods required to identify least-cost policies to improve the region's ambient water quality. We survey the costs and technical capacities of a variety of treatment techniques, ranging from

simple primary or mechanical treatment to advanced technology to remove nutrients. We also survey existing water quality models and shown how they can be adapted to the policy analysis problem. Finally, we characterize a number of potential policies in terms that are amenable to analysis of their costs and ambient quality impacts. Focusing on municipal waste-water treatment plants and water quality in rivers and streams, we show how these techniques can be integrated and applied. We conclude with an empirical example based on the Nitra, a small, heavily contaminated river in Slovakia.

Srinivasan, Kannan

TI Product Introduction Strategy to Signal Network Externality. **AU** Padmanabhan, V.; Rajiv, Surendra; Srinivasan, Kannan.

Stagliano, Vito

PD February 1994. **TI** The Impact of a Proposed EPA Rule Mandating Renewable Oxygenates for Reformulated Gasoline: Questionable Energy Security, Environmental and Economic Benefits. **AA** Resources for the Future. **SR** Resources for the Future Discussion Paper: 94-17; Resources for the Future, 1616 P Street, N.W., Washington, D.C. 20036. **PG** 16. **PR** $3.00 (prepaid, U.S. funds only). **JE** Q28, Q38. **KW** Transportation Fuels. Energy Security. Environmental Policy.

AB In a proposed rule issued in December 1993, the Environmental Protection Agency (EPA) intends to require that 30 percent of the oxygenates to be used in reformulated gasoline be derived from renewable feedstock. The only such feedstock currently available is ethanol which is heavily subsidized by the Federal government and by a number of States. EPA justifies the rule on grounds that it would improve energy security, create domestic employment, and contribute to the reduction of greenhouse gas emissions. A RFF examination of the proposed rule leads to the conclusion that energy security would not be affected but oil imports would likely rise; employment would be redistributed rather than created, and global climate change benefits would be marginal or negative.

Stambaugh, Robert F.

TI Portfolio Inefficiency and the Cross-Section of Expected Returns. **AU** Kandel, Shmuel; Stambaugh, Robert F.

Stavins, Robert N.

PD June 1993. **TI** Transaction Costs and the Performance of Markets for Pollution Control. **AA** Harvard University and Resources for the Future. **SR** Resources for the Future, Quality of the Environment Division Discussion Paper: 93-16; Quality of the Environment Division, Resources for the Future, 1616 P Street, NW., Washington, DC 20036. **PG** 47. **PR** $3.00 prepaid (U.S. funds only). **JE** Q28, L51, L14. **KW** Tradable Permits. Transaction Costs. Cost-Effectiveness. Pollution Control.

AB Tradable-permit systems are at the center of current interest and activity in market-based reforms of environmental policy, because these systems can offer significant advantages over conventional approaches to pollution control. Unfortunately, claims made for their relative cost-effectiveness have often been exaggerated. Transaction costs, which are ubiquitous in these markets, reduce trading levels and increase abatement costs. Furthermore, in some cases, equilibrium permit allocations and hence, aggregate control costs, are sensitive to initial permit distributions, providing an efficiency justification for politicians' typical focus on permit distribution mechanisms. These and other findings are consistent with available empirical evidence on the performance of pollution-control markets.

TI The Energy Paradox and the Diffusion of Conservation Technology. **AU** Jaffe, Adam B.; Stavins, Robert N.

TI Prices, Regulation, and Energy Conservation. **AU** Jaffe, Adam B.; Stavins, Robert N.

TI Environmental Regulation and International Competitiveness: What Does Evidence Tell Us? **AU** Jaffe, Adam B.; Peterson, Steven R.; Portney, Paul R.; Stavins, Robert N.

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

TI Environmental Regulation and Technology Diffusion: The Effects of Alternative Policy Instruments. **AU** Jaffe, Adam B.; Stavins, Robert N.

Stein, Jeremy C.

TI Internal Versus External Capital Markets. **AU** Gertner, Robert H.; Stein, Jeremy C.; Scharfstein, David S.

PD June 1994. **TI** Waves of Creative Destruction: Customer Bases and the Dynamics of Innovation. **AA** Massachusetts Institute of Technology and National Bureau of Economic Research. **SR** National Bureau of Economic Research Working Paper: 4782; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PG** 37. **PR** $5.00. **JE** L15, O31, D43. **KW** Innovation. Product Quality. Competition.

AB This paper develops a model of repeated innovation with knowledge spillovers. The model's novel feature is that firms compete on two dimensions: 1) product quality or cost, where one firm's innovation ultimately spills over to other firms; and 2) distribution costs, where there are no spillovers across firms and where incumbent firms' existing customer bases give them a competitive advantage over would-be entrants. Customer bases have two important consequences: 1) they can in some circumstances dramatically reduce the long-run average level of innovation; 2) they lead to endogenous bunching, or waves, in innovative activity.

Stern, Robert M.

TI Market Access in the Uruguay Round and Beyond; Comment on Deardorff; Strengthened Dispute Settlement Procedures in the Uruguay Round. **AU** Deardorff, Alan V.; Stern, Robert M.; Jackson, John.

Streitwieser, Mary L.

PD August 1994. **TI** Cross Sectional Variation in Toxic Waste Releases from the U.S. Chemical Industry. **AA** Bureau of the Census. **SR** Bureau of the Census Center for Economic Studies Discussion Paper: 94-8; Center for Economic Studies, Bureau of the Census, Washington, DC 20233. **PG** 44. **PR** $11.00. **JE** L65, Q21. **KW** Toxic Waste. Chemical Industry. Heterogeneity.

AB This paper measures and examines the 1987 cross sectional variation in toxic releases from the U.S. chemical industry. The analysis is based on a unique plant level data set of over 2,100 plants, combining EPA toxic release data with

Census Bureau data on economic activity. The main results are that intra-industry variation in toxic releases are as great as, or greater, than inter-industry variation, and that plant, firm, and regulatory characteristics are important factors in explaining observed variation in toxic releases. Even after controlling for primary product and plant characteristics, there are some firms which generate significantly lower toxic waste due to managerial ability and/or technology differences.

Stulz, Rene M.

TI Information, Trading and Stock Returns: Lessons From Dually-Listed Securities. **AU** Chan, K.C.; Stulz, Rene M.; Fong, Wai-Ming.

Sturm, Roland

TI Information and the Demand for Supplemental Medicare Insurance. **AU** Gertler, Paul J.; Sturm, Roland; Davidson, Bruce.

Sun, Yeneng

TI Integrals of Set-Valued Functions With a Countable Range. **AU** Khan, M. Ali; Sun, Yeneng.

Swenson, Deborah

TI Agglomeration Benefits and Location Choice: Evidence From Japanese Manufacturing Investment in the United States. **AU** Head, Keith; Swenson, Deborah; Ries, John.

Tamura, Akiko

TI Bilateralism and Regionalism in Japanese and U.S. Trade and Direct Foreign Investment Patterns. **AU** Eaton, Jonathan; Tamura, Akiko.

Tauchen, Helen

TI Work and Crime: An Exploration Using Panel Data. **AU** Witte, Ann Dryden; Tauchen, Helen.

Taylor, Alan M.

PD April 1994. **TI** Convergence in the Age of Mass Migration. **AU** Taylor, Alan M.; Williamson, Jeffrey G. **AA** Taylor: Northwestern University. Williamson: Harvard University and National Bureau of Economic Research. **SR** National Bureau of Economic Research Working Paper: 4711; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PG** 22. **PR** $5.00. **JE** J11, J61, O11. **KW** Economic Convergence. Migration.

AB Between 1870 and 1913, economic convergence among present OECD members (or even a wider sample of countries) was dramatic, about as dramatic as it has been over the past century and a half. The convergence can be documented in GDP per worker-hour, GDP per capita, and in real wages. What were the sources of the convergence? One prime candidate is mass migration. In the absence of quotas, this was a period of open international migration, and the numbers who elected to move were enormous. If international migration is ever to play a role in contributing to convergence, the pre-quota period surely should be it. This paper offers some estimates which suggest that migration could account for very large shares of the convergence in GDP per worker and real wages, though a much smaller share in GDP per capita. One might conclude, therefore, that the interwar cessation of convergence could be partially explained by the imposition of quotas and other barriers to migration. The paper concludes with caution as it enumerates the possible offsets to the mass migration impact which our partial equilibrium analysis ignores, and with the plea that convergence models pay more attention to open-economy forces.

Taylor, Grant

TI Estimating Consumer Preferences Using Market Data--An Application to U.S. Automobile Demand. **AU** Arguea, Nestor M.; Hsiao, Cheng; Taylor, Grant.

Thaler, Richard H.

TI Financial Decision-Making in Markets and Firms: A Behavioral Perspective. **AU** De Bondt, Werner F. M.; Thaler, Richard H.

TI Price Reactions to Dividend Initiations and Omissions: Overreaction or Drift? **AU** Michaely, Roni; Womack, Kent; Thaler, Richard H.

Thursby, Jerry G.

PD June 1994. **TI** Interstate Cigarette Bootlegging: Extent, Revenue Losses, and Effects of Federal Intervention. **AU** Thursby, Jerry G.; Thursby, Marie C. **AA** Thursby, J.: Purdue University. Thursby, M.: Purdue University and National Bureau of Economic Research. **SR** National Bureau of Economic Research Working Paper: 4763; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PG** 25. **PR** $5.00. **JE** L66, L51, H21. **KW** Cigarette Industry. Taxation. Smuggling.

AB In this paper, we develop and estimate a model of commercial smuggling in which some, but not all, firms smuggle a portion of the cigarettes they sell. The model is used to examine the effects on interstate cigarette smuggling of the Contraband Cigarette Act and a change in the federal excise tax. We find that both policies have unintentional effects. While the Contraband Cigarette Act was imposed to reduce interstate smuggling, we find it had the opposite effect. In contrast, an increase in the federal tax is not intended to affect smuggling, but we find it increases the portion of cigarette sales that is commercially smuggled.

Thursby, Marie C.

TI Interstate Cigarette Bootlegging: Extent, Revenue Losses, and Effects of Federal Intervention. **AU** Thursby, Jerry G.; Thursby, Marie C.

Toman, Michael

PD May 1993. **TI** Nonrenewable Resource Supply: Theory and Practice. **AU** Toman, Michael; Walls, Margaret A. **AA** Resources for the Future. **SR** Resources for the Future, Energy and Natural Resources Division Discussion Paper: ENR93-15; Energy and Natural Resources Division, Resources for the Future, 1616 P Street, NW., Washington, DC 20036. **PG** 26. **PR** $3.00 prepaid (U.S. funds only). **JE** Q31, L71. **KW** Nonrenewable Resources. Dynamic Models.

AB The analysis of nonrenewable resource supply behavior has generated one of the largest literatures within natural resource and environmental economics. In this paper we review the second wave of theoretical and empirical studies of nonrenewable resource supply that began in the late 1970's, in response to perceived shortfalls in previous approaches. In the theoretical review we emphasize developments built around models with heterogeneous reserves and exploration that add to the realism of the conceptual models. In the empirical review we address the emergence of the rational expectations econometric method, particularly in petroleum applications, and the potential for integrating contemporary econometric practice with the information provided by geologists. Cutting across both elements of our review is an interest in the consistency or gaps between theory and practice.

PD June 1993. **TI** Alternative Standards and Instruments for Air Pollution Control in Poland. **AU** Toman, Michael; Cofala, Janusz; Bates, Robin. **AA** Toman: Resources for the Future. Cofala: IIASA/Polish Academy of Sciences. Bates: The World Bank. **SR** Resources for the Future, Energy and Natural Resources Division Discussion Paper: ENR93-16; Energy and Natural Resources Division, Resources for the Future, 1616 P Street, NW., Washington, DC 20036. **PG** 28. **PR** $3.00 prepaid (U.S. funds only). **JE** Q25, Q28, O13. **KW** Air Pollution. Economic Incentives. Eastern Europe.
AB Like other Central European countries, Poland faces the twin challenges of improving environmental quality while also fostering sustainable economic development. In this study we examine the costs of different standards for air pollution control, and the cost savings from using incentive-based policy instruments in lieu of more rigid command-and -control policies. The comparisons are based on the results of a simulation model of energy use and air pollution control for the Polish economy over 1990-2015. The model simulates least-cost energy supply decisions under different environmental policy assumptions, the corresponding emissions, and the cost of achieving the specified policy objectives. The model results suggest that incentive-based policies will have efficiency gains over command policies that are at least worthy of consideration and may be quite substantial. The size of the gains in practice depends in part on how much flexibility is built into the command approach (e.g., capacity for intrafirm trading as well as a lack of technology-specific requirements).

TI The Benefits of Ambient Air Quality Improvements in Central and Eastern Europe: A Preliminary Assessment. **AU** Krupnick, Alan J.; Harrison Kenneth; Nickell, Eric; Toman, Michael.

PD April 1994. **TI** Neoclassical Economic Growth Theory and "Sustainability". **AU** Toman, Michael; Pezzey, John; Krautkraemer, Jeffrey. **AA** Toman: Resources for the Future. Pezzey: University College London. Krautkraemer: Washington State University. **SR** Resources for the Future, Energy and Natural Resources Division Discussion Paper: ENR93-14; Energy and Natural Resources Division, Resources for the Future, 1616 P Street, NW., Washington, DC 20036. **PG** 36. **PR** $3.00 prepaid (U.S. funds only). **JE** Q32, D61, D91. **KW** Growth Theory. Sustainable Development. Natural Resources.
AB The issue of "sustainability" figures prominently in contemporary discussions of natural resource and environmental management and economic development. However, the concept is not easily defined and is interpreted differently by economists, ecologists, philosophers, and others. Even among economists there are significant differences of interpretation. Some treat sustainability as not much more than another way of espousing economic efficiency in the management of services derived from the natural endowment. Others claim that conventional economic efficiency criteria are inadequate for addressing sustainability concerns. Our aims in this paper are to identify the issues that seem to be most salient in formal economic analysis of sustainability, and to review economic growth theory that bears on these issues. In the latter effort we focus mostly on literature within the methodological mainstream of neoclassical economics, though the studies do not always maintain all the common assumptions of neoclassical theory. We first draw together arguments from economics, ecology, and philosophy to briefly describe what seem to be the most important issues in addressing sustainability. Armed with this characterization, we then review several categories of studies related to economic advance, natural resource use, and environmental preservation over time. We include both representative-agent models and overlapping-generations models in the review. The concluding section of the paper summarizes our discussion and offers an overall assessment of the literature.

PD June 1994. **TI** How Should an Accumulative Toxic Substance be Banned? **AU** Toman, Michael; Palmer, Karen. **AA** Resources for the Future. **SR** Resources for the Future, Energy and Natural Resources Division Discussion Paper: ENR93-03; Energy and Natural Resources Division, Resources for the Future, 1616 P Street, NW., Washington, DC 20036. **PG** 22. **PR** $3.00 prepaid (U.S. funds only). **JE** Q28, D21. **KW** Toxic Substance. Economic Incentives. Pollution Control.
AB The harmful effects on human health or ecosystems of many toxic substances depend on their cumulative concentration in the carrying medium (water, soil, or air), not just on the annual deposition rates of the substances. Accumulative toxic substances pose challenges to regulatory policy that are not faced when controlling pollutants whose damaging effects are thought to depend primarily on annual emission flows. An increasingly common response is to phase out offending uses or production of the substance. In this paper we take as given the goal of phasing out an accumulative pollutant and examine different ways this could be done using a simple, partial-equilibrium dynamic model. We focus on phaseout measures in which the cumulative production and release of the offending substance over the transition period is fixed. Once this cumulative volume is reached, users must convert to a known but higher-cost substitute that is assumed to be benign. The key to the analysis is the observation that the quota on cumulative production makes production of the toxic substance during the transition analogous to extraction of an exhaustible resource with a higher-cost, nonexhaustible "backstop" technology. Using this framework, we first describe the cost-effective outcome when the "sunset" date is chosen to maximize product market surplus subject to the cumulative production constraint. This outcome is compared to one in which the regulator fixes the sunset date, and one in which the regulator limits annual production as well as cumulative production out of concern for acute exposure effects. Finally, we discuss the kinds of market-based policy instruments that would be appropriate for supporting a cost-effective outcome.

TI Methods for Estimating the Economic Value of Human Health Benefits From Environmental Improvement. **AU** Harrington, Winston; Toman, Michael.

PD September 1994. **TI** Sustainable Forest Ecosystems and Management: A Review Article. **AU** Toman, Michael; Ashton, P. Mark S. **AA** Toman: Resources for the Future.

Ashton: Yale University. **SR** Resources for the Future Discussion Paper: 94-42; Resources for the Future, 1616 P Street, N.W., Washington, D.C. 20036. **PG** 31. **PR** $6.00. **JE** Q23, Q28. **KW** Sustainability. Forestry Economics. Ecosystem Management.

AB Concerns about the "sustainability" of forest resources and ecosystems have been expressed almost from the beginning of modern studies of forest management by ecologists, biologists, economists, and other specialists. However, the focus of this concern has gone through several transformations. Environmental scientists have emphasized the maintenance of forest ecosystems in the face of different types of human intervention. Economists and other forest managers, on the other hand, have emphasized the capacity of forest systems to provide valued ongoing flows of goods and services for human societies. This paper takes stock of forest resource and ecosystem sustainability from both ecological and economic perspectives. It seeks to identify how these disciplinary perspectives contribute to a better understanding of sustainability, and where the most significant conceptual and factual gaps are found. Of particular interest are two related themes: how economic efficiency and sustainability may differ in their implications for forest system management, and how criteria for forest system sustainability are related to the scale of management decisions (e.g., individual forest site versus region versus the global biosphere).

PD September 1994. **TI** Ecosystem Valuation: An Overview of Issues and Uncertainties. **AA** Resources for the Future. **SR** Resources for the Future Discussion Paper: 94-43; Resources for the Future, 1616 P Street, N.W., Washington, D.C. 20036. **PG** 22. **PR** $6.00. **JE** C93, Q21, Q28. **KW** Ecosystems Management. Economic Valuation.

AB The idea of "valuing ecosystems" has cropped up with increasing frequency in debates about the management and preservation of natural resources and systems. Some of the important questions include: What attributes of ecosystem states and processes does one attempt to include in valuation? How can public values of these attributes be inferred? What tradeoffs are possible or meaningful in assessing ecosystem values? Are there value criteria (yardsticks) other than money that provide useful (or even better) information? This paper summarizes the basic reasoning behind viewing ecosystems as sources of value that are not only important to society but appropriate targets for economic valuation. It also briefly summarizes the tools available to economists for this task, and some of the main criticisms that have been lodged against them. The paper concludes that sweeping objections to economic valuation of ecosystems are less than compelling. However, there are ecological, economic, ethical, and empirical uncertainties that highlight the tentative status of ecosystem valuation estimates, especially for large-scale, complex systems. These uncertainties suggest that other ecological and institutional information is likely to be important for the evaluation of policies to reduce threats to ecosystem integrity.

PD September 1994. **TI** Goals and Policies for Promoting "Sustainability:" Some Thoughts on the President's Council on Sustainable Development. **AA** Resources for the Future. **SR** Resources for the Future Discussion Paper: 94-44; Resources for the Future, 1616 P Street, N.W., Washington, D.C. 20036. **PG** 13. **PR** $6.00. **JE** Q28, Q21. **KW** Sustainable Development. Environmental Economics.

AB The President's Council on Sustainable Development (PCSD) was established (i) to advise the President on sustainable development issues, including the development of a strategy for sustainable development in the U.S. that fosters economic vitality as well as environmental stewardship; and (ii) to advise the President on a variety of public awareness activities to raise public awareness and capacities for promoting sustainable development objectives. In this paper I argue that there are at least three distinct, albeit overlapping, objectives that seem to lie behind the Council's state principles and the activities undertaken by the Council's task forces: "traditional" environmental concerns, "quality of life" concerns, and concerns about global ecological and economic well-being. These objectives not only are distinct in their content but also require considerably different types of efforts by different parties. For the PCSD to achieve its goals and provide a productive legacy to build upon in the future, it is important that these distinctions in means and ends be recognized. It is also important to identify which issues and activities the PCSD can most productively address. In some cases fairly concrete contributions may be possible, while in other cases the PCSD may be most productive simply by clarifying the questions we face; in still other cases, the most productive role of the PCSD may be fairly small. Similarly, some activities may have a much more short-term payoff than others, while still other activities can have an enormous payoff but only over long time horizons.

Troske, Kenneth R.

PD August 1994. **TI** Evidence on the Employer Size-Wage Premium From Worker-Establishment Matched Data. **AA** Bureau of the Census. **SR** Bureau of the Census Center for Economic Studies Discussion Paper: 94-10; Center for Economic Studies, Bureau of the Census, Washington, DC 20233. **PG** 52. **PR** $13.00. **JE** C31, J31. **KW** Establishment-Size. Wage Premium. Matched Data.

AB In spite of the large and growing importance of the employer size-wage premium, previous attempts to account for this phenomenon using observable worker or employer characteristics have met with limited success. The primary reason for this lack of success has been the lack of suitable data. While most theoretical explanations for the size-wage premium are based on the matching of employer and employee characteristics, previous empirical work has relied on either worker surveys with little information about a worker's employer, or establishment surveys with little information about workers. In contrast, this study uses the newly created Worker-Establishment Characteristic Database, which contains linked employer-employee data for a large sample of manufacturing workers and establishments, to examine the employer size-wage premium. The main results are: 1) Examining the cross-plant distribution of the skill of workers shows that managers with larger observable measures of skill work in large plants and firms with production workers with larger observable measures of skill. 2) Results from reduced form wage regressions show that including measures of the amount or type of capital in a worker's plant eliminates the establishment size-wage premium. 3) These results are robust to efforts at correcting for possible bias in the parameter estimates due to sample selections. While these findings are consistent with neoclassical explanations for the size-wage premium that hypothesize that large employers employ more skilled workers, their primary importance is that they show that the employer size-wage premium can be accounted for with employer-employee matched data. As such, these data lend support to models which emphasize the role of employer-employee matching in accounting for both cross-sectional and dynamic aspects of the wage distribution.

Tschang, F. Ted

TI Distributional and Environmental Consequences of Taxes on Energy: A Partial Equilibrium Model of U.S. Household Energy Demand. **AU** Dowlatabadi, Hadi; Kopp, Raymond J.; Tschang, F. Ted.

Tsiddon, Daniel

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

Tsur, Yacov

PD August 1994. **TI** Endangered Species and Natural Resource Exploitation: Extinction vs. Coexistence. **AU** Tsur, Yacov; Zemel, Amos. **AA** Tsur: University of Minnesota and The Hebrew University. Zemel: Ben Gurion University. **SR** University of Minnesota Economic Development Center Bulletin: 94-1; Department of Agricultural and Applied Economics, 232 Classroom Office Building, University of Minnesota, St. Paul, MN 55108. **PG** 27. **PR** no charge. **JE** Q25, Q28. **KW** Endangered Species. Uncertainty. Extinction. Natural Resources. Management.

AB The threat on the survival of animal species due to intensive use of natural resources is incorporated within resource management models, paying special attention to uncertainty regarding the conditions that lead to extinction. The manner in which the potential benefits forgone due to the species extinction (denoted extinction penalty) induce more conservative exploitation policies is studied in detail. When the extinction penalty is ignored, the optimal policy is to drive the resource stock to a particular equilibrium level from any initial state. When the extinction penalty is considered and the conditions that lead to extinction are not fully understood (i.e., involve uncertainty), an interval of equilibrium states is identified, which depends on the penalty and the immediate extinction risk.

Tyteca, Daniel

PD April 1994. **TI** On the Measurement of Environmental Performance in Firms--Literature Review and Productive Efficiency Approach. **AA** Institut d'Administration et de Gestion, Belgium. **SR** Resources for the Future Discussion Paper: 94-28; Resources for the Future, 1616 P Street, N.W., Washington, D.C. 20036. **PG** 36. **PR** $3.00 (prepaid, U.S. funds only). **JE** Q21, D21. **KW** Environmental Indicators. Empirical Methods.

AB The paper reports on speculative research being conducted on the definition and development of environmental performance indicators in firms. These would allow comparing various plants in a firm, or various firms in an industry, and quantifying the effects of environmental regulations or taxes on a firm's environmental performance. The presentation starts from the standpoint that one can adopt in developing environmental performance indicators: several simple indicators versus one aggregate indicator; normalization; standardization; measurement units; relative vs. absolute indicator(s); reference to existing technologies; extent; and static vs. dynamic indicator(s). A few existing approaches from the literature are briefly reviewed and commented on. Several companies already worked out various kinds of environmental performance indicators, but these are seldom disclosed explicitly in the literature and are more likely to be specifically oriented toward the company's objectives. Additionally, there is obviously no attempt toward standardization, which would allow for comparisons among firms and over time. Lifecycle and environmental accounting frameworks are discussed in the perspective of their potential use in the development of environmental performance indicators. Other approaches published in the scientific literature are both rare and dissimilar. They range from oversimplified indicators to more sophisticated ones, in which there is a trend to take somewhat arbitrary viewpoints.

Vaillant, Marian

TI Can State Taxes Redistribute Income? **AU** Feldstein, Martin; Vaillant, Marian.

Vayanos, Dimitri

PD April 1994. **TI** Equilibrium Interest Rate and Liquidity Premium Under Proportional Transactions Costs. **AU** Vayanos, Dimitri; Vila, Jean-Luc. **AA** Vayanos: Stanford University. Vila: Massachusetts Institute of Technology. **SR** Stanford Graduate School of Business Research Paper: 1291; Graduate School of Business, Stanford University, Stanford, CA 94305-5015. **PG** 50. **PR** no charge. **JE** D51, E43, G12. **KW** Transactions Costs. General Equilibrium. Overlapping Generations Model.

AB In this paper we study the impact of transactions costs on the rates of return on liquid and illiquid assets, using a continuous-time model of an overlapping generations economy. Agents in this economy start with no financial wealth and receive a stream of labor income over their lifetimes. They can invest in two long-term assets which pay a constant stream of dividends. The first asset is liquid and traded without costs, while the second asset is illiquid and its trading is subject to proportional costs. Agents buy and sell these assets for lifecycle motives. In fact, they buy the higher yielding illiquid asset for long-term investment and the lower yielding liquid asset for short-term investment. We find that when transactions costs increase, the rate of return on the liquid asset decreases, while the rate of return on the illiquid asset may increase or decrease. We also find that if the fraction of the illiquid asset in the economy is higher, the liquidity premium is higher and the effect of transactions costs on the rate of return on the liquid asset is stronger.

PD June 1994. **TI** A Dynamic Model of an Imperfectly Competitive Bid-Ask Market. **AA** Stanford University. **SR** Stanford Graduate School of Business Research Paper: 1302; Graduate School of Business, Stanford University, Stanford, CA 94305-5015. **PG** 46. **PR** no charge. **JE** C73, D44, G11. **KW** Dynamic Auctions. Large Traders. Financial Markets. Efficiency of Trade.

AB This paper studies a dynamic model of a financial market with some large, strategic traders. These traders are risk-averse and exchange a risky asset for hedging purposes. The only private information in the model concerns their hedging demands. We find that they trade quickly and at a decreasing rate when there are many non-strategic traders in the market. Otherwise they trade slowly at an increasing and then decreasing rate. In that case the outcome is very inefficient and differs from the competitive one more than it does in static double auction models. We also find that strategic traders may be better off if their trades are known in advance.

Vila, Jean-Luc

TI Equilibrium Interest Rate and Liquidity Premium Under Proportional Transactions Costs. **AU** Vayanos, Dimitri; Vila, Jean-Luc.

Villas-Boas, J. Miguel

TI Competitive Price Promotions With Multi-Product Retailers. **AU** Lal, Rajiv; Villas-Boas, J. Miguel.

Vishwanath, Tara

TI Equilibrium Migration With Endogenous Moving Costs. **AU** Carrington, William J.; Detragiache, Enrica; Vishwanath, Tara.

Walls, Margaret A.

TI Global Warming and Urban Smog: The Cost Effectiveness of CAFE Standards and Alternative Fuels. **AU** Krupnick, Alan J.; Walls, Margaret A.; Collins, Carol T.

TI Managing Municipal Solid Waste: Advantages of the Discriminating Monopolist. **AU** Macauley, Molly K.; Salant, Stephen W.; Walls, Margaret A.; Edelstein, David.

TI Managing Municipal Solid Waste: Advantages of the Discriminating Monopolist. **AU** Macauley, Molly K.; Salant, Stephen W.; Walls, Margaret A.; Edelstein, David.

TI Nonrenewable Resource Supply: Theory and Practice. **AU** Toman, Michael; Walls, Margaret A.

TI The Distributional and Environmental Implications of an Increase in the Federal Gasoline Tax. **AU** Krupnick, Alan J.; Walls, Margaret A.; Hood, H. Carter.

PD September 1993. **TI** Estimating the Demands for Vehicle-Miles-Traveled Using Household Survey Data: Results From the 1990 Nationwide Personal Transportation Survey. **AU** Walls, Margaret A.; Krupnick, Alan J.; Hood, H. Carter. **AA** Resources for the Future. **SR** Resources for the Future, Energy and Natural Resources Division Discussion Paper: ENR93-25; Energy and Natural Resources Division, Resources for the Future, 1616 P Street, NW., Washington, DC 20036. **PG** 26. **PR** $3.00 prepaid (U.S. funds only). **JE** L92. **KW** Vehicle Transportation. Elasticities. Consumer Demand.
AB Patterns of vehicle ownership and use have changed dramatically in the United States over the past fifteen to twenty years. Between 1977 and 1990, annual vehicle-miles- traveled (VMT) by all vehicles in the U.S. increased 46 percent. This increase was due primarily to an increase in the average number of vehicles per household--50 percent of all households owned two or more vehicles in 1977 and 16 percent owned three or more; by 1990, these figures had increased to 58 and 20 percent, respectively--and an increase in the number of annual trips per vehicle. The average number of trips per vehicle increased 18 percent between 1977 and 1990 and most of this increase was in the form of nonwork related travel. We estimate average short-run price elasticities of demand for gasoline of -0.29, -0.41, and -0.78, for one-, two-, and three-or-more-vehicle households, respectively. Our overall weighted (by VMT) average gasoline price elasticity is -0.51. This estimate is slightly greater than that found in previous studies and is largely driven by the -0.78 estimate for three-or-more -vehicle households. These households accounted for one-third of all VMT's in 1990. These findings suggest that the large increase in VMT's during the 1980's may have consisted primarily of increases in more discretionary travel--trips that are likely to be more sensitive to price changes.

PD October 1993. **TI** Motor Vehicles and Pollution in Central and Eastern Europe. **AA** Resources for the Future. **SR** Resources for the Future, Energy and Natural Resources Division Discussion Paper: ENR93-22; Energy and Natural Resources Division, Resources for the Future, 1616 P Street, NW., Washington, DC 20036. **PG** 62. **PR** $3.00 prepaid (U.S. funds only). **JE** Q25, Q28, L92. **KW** Air Pollution. Automotive Transportation. Eastern Europe.
AB This paper summarizes the current contribution of motor vehicles to air pollution problems in Bulgaria, the Czech Republic and Slovakia, Hungary, and Poland, and forecasts motor vehicle emissions in those countries through the year 2010. Most available information, on both emissions and air quality, suggests that the current motor vehicle pollution problem is not as serious as that in western countries and is not as serious as other air quality problems in Central and Eastern Europe. However, the level of vehicle ownership and use in Central and Eastern Europe is much less than in the West. Some observers have posited that with economic growth in these countries, there could be a problem from motor vehicles in the future--especially if the types of vehicles that are driven do not improve (current vehicles are dirty compared to Western vehicles). The paper examines this issue by using a simple model of car ownership and use, estimated on data from OECD countries, along with forecasts of future income growth and energy prices in the four Eastern European countries to forecast future vehicle ownership and use in each of the four countries. These forecasts are combined with forecasts of average emissions from vehicles there (obtained by running the U.S. EPA's MOBILE5 emissions model)--taking into account likely changes in the types of vehicles on the road--to get overall emissions forecasts. We find that even without significant emissions control requirements, with the exception of lead, total emissions from motor vehicles will still be a relatively unimportant air pollution problem in Central and Eastern Europe. By 2010, for most pollutants, emissions per capita in each of the four countries are less than 1990 U.S. levels. This is due to relatively high expected energy prices and zero or negative growth in GNP in the early 1990's in the four countries analyzed. If many of the planned pollution control requirements are put into law--such as meeting new EC standards--motor vehicle pollution in Central and Eastern Europe will drop greatly, but these requirements are quite costly and imposing them may be unwise in the short run.

TI Shifting Gears: New Directions for Cars and Clean Air. **AU** Harrington, Winston; Walls, Margaret A.; McConnell, Virginia.

Wang, Jiang

TI Implementing Option Pricing Models When Asset Returns are Predictable. **AU** Lo, Andrew W.; Wang, Jiang.

Wang, Zhigang

TI A Dynamic Analysis of Chinese Enterprise Behavior Under Alternative Reform Regimes: A Feasibility Study. **AU** Day, Richard H.; Wang, Zhigang; Zou, Gang.

Weber, Guglielmo

TI Is Consumption Growth Consistent With Intertemporal Optimization? Evidence From the Consumer Expenditure Survey. **AU** Attanasio, Orazio P.; Weber, Guglielmo.

Wei, Shang-Jin

PD May 1994. **TI** Anticipations of Foreign Exchange Volatility and Bid-Ask Spreads. **AA** Harvard University and National Bureau of Economic Research. **SR** National Bureau of Economic Research Working Paper: 4737; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PG** 23. **PR** $5.00. **JE** G12, G13, G14. **KW** Bid-Ask Spread. Volatility. Currency Options.

AB The paper studies the effect of the market's perceived exchange rate volatility on bid-ask spreads. The anticipated volatility is extracted from currency options data. An increase in the perceived volatility is found to widen bid-ask spreads. The direction of the effect is consistent with an option model of the spread, but the magnitude is smaller. An increase in trading volume of spot exchange rates also widens the spread. The omission of the trading volume, however, does not bias the estimate of the effect of the volatility on the spreads. Although the spread-volatility relation implied by the option model of the spread is close to linear, some form of nonlinearity can still be detected from the data.

TI Insignificant and Inconsequential Hysteresis: The Case of U.S. Bilateral Trade. **AU** Parsley, David C.; Wei, Shang-Jin.

Weiss, Allen M.

TI Optimal Migration Strategies for Firms Facing Technological Innovations: An Option Pricing Approach. **AU** Grenadier, Steven R.; Weiss, Allen M.

Werner, Ingrid M.

TI Transaction Costs in Dealer Markets: Evidence From the London Stock Exchange. **AU** Reiss, Peter C.; Werner, Ingrid M.

Wernstedt, Kris

TI Dollars and Sense Under the Endangered Species Act: Incorporating Diverse Viewpoints in Recovery Planning for Pacific Northwest Salmon. **AU** Hyman, Jeffrey B.; Wernstedt, Kris; Paulsen, Charles M.

Wheatcroft, Ana

TI Hoarding and Hibernation in Response to the Onset of Winter. **AU** Salant, Stephen W.; Kalat, Karen; Wheatcroft, Ana.

White, Michelle J.

PD August 1993. **TI** The Costs of Corporate Bankruptcy: A U.S.-European Comparison. **AA** University of Michigan. **SR** University of Michigan Research Forum on International Economics Discussion Paper: 346; Professor Robert M. Stern, Institute of Public Policy Studies, University of Michigan, 440 Lorch Hall, Ann Arbor, MI 48109-1220. **PG** 40. **PR** $4 (U.S. Funds) for shipping and handling (checks should be payable to: IPPS. Enclose with order). **JE** K22, K33. **KW** Bankruptcy. Economic Efficiency. Insolvency Laws.

AB Both Britain and France have adopted new bankruptcy/insolvency laws since 1985 and a new bankruptcy law has also been proposed in Germany. In all three countries, a major purpose of the new laws is to shift the focus of bankruptcy law away from exclusively protecting creditors' interests and toward a balance between protecting creditors versus saving distressed firms. However, many of the features of bankruptcy law differ across the three countries and all three countries' bankruptcy laws differ quite strongly from bankruptcy law in the U.S. This paper has several purposes. First, it identifies and compares basic differences in bankruptcy procedures in the four countries. Second, the costs (losses in economic efficiency) attributable to bankruptcy are identified. Bankruptcy costs incurred before it is known whether firms will be financially distressed are shown likely to be more important determinants of whether bankruptcy policy is economically efficient than bankruptcy costs incurred after firms have become financially distressed and/or have filed for bankruptcy. Third, the costs of bankruptcy under the laws of the four countries--as well as under various proposed bankruptcy reforms--are analyzed. The analysis suggests that bankruptcy costs incurred before it is known whether firms will be financially distressed are likely to pull bankruptcy policy in the opposite direction from costs incurred after firms become financially distressed. As a result, it is impossible to determine from theory whether the more liquidation-oriented bankruptcy policies of the European countries or the more reorganization-oriented policy of the U.S. is more economically efficient.

Whitman, Marina V. N.

PD Spring 1994. **TI** Flexible Markets or Flexible Firms: Minimizing the Costs of Structural Change. **AA** University of Michigan. **SR** University of Michigan Research Forum on International Economics Discussion Paper: 355; Professor Robert M. Stern, Institute of Public Policy Studies, University of Michigan, 440 Lorch Hall, Ann Arbor, MI 48109-1220. **PG** 23. **PR** $4 (U.S. Funds) for shipping and handling (checks should be payable to: IPPS. Enclose with order). **JE** J62, J68, L21, L23. **KW** Structural Change. Contingent Workers. Labor Reallocation. Virtual Firms.

AB This paper asks whether there are ways to organize the process of reallocating the factors of production, particularly labor, in response to rapid structural change that can minimize the associated individual and social costs without slowing the change process and thus reducing its benefits. It explores the relative advantages and disadvantages of heavier reliance on internal reallocation, within the firm, as is the case in Japan, versus reallocation primarily through external labor and capital markets, as is the case in the United States. The movement in both countries toward greater reliance on external reallocation mechanisms is explored. Finally, some implications for labor markets of such emerging phenomena as "virtual firms" and "contingent workers" are described and suggestions made regarding appropriate public policy responses.

Williamson, Jeffrey G.

TI Convergence in the Age of Mass Migration. **AU** Taylor, Alan M.; Williamson, Jeffrey G.

Wiseman, A. Clark

TI Global Forest Products Trade: The Consequences of Domestic Forest Land-Use Policy. **AU** Sedjo, Roger A.; Wiseman, A. Clark; Brooks, David J.; Lyon, Kenneth S.

TI Changing Timber Supply and the Japanese Market. **AU** Sedjo, Roger A.; Wiseman, A. Clark; Brooks, David J.;

Lyon, Kenneth S.

Witte, Ann Dryden

PD July 1994. **TI** Work and Crime: An Exploration Using Panel Data. **AU** Witte, Ann Dryden; Tauchen, Helen. **AA** Witte: Wellesley College and National Bureau of Economic Research. Tauchen: University of North Carolina. **SR** National Bureau of Economic Research Working Paper: 4794; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PG** 12. **PR** $5.00. **JE** J11, J24, J23. **KW** Crime. Education. Employment.

AB In this paper we explore the relationship between crime and work using data for a cohort sample of young men. We find that working and going to school significantly decrease the probability of committing criminal acts and by virtually identical amounts. Parochial school education and higher IQ are also significantly associated with lower criminal proclivities, but a high school degree has no significant effect. These findings, in conjunction with other research, suggest that participation in legitimate activities (employment or school) per se has a greater effect on criminal behavior than does the higher income associated with employment or educational attainment.

Womack, Kent

TI Price Reactions to Dividend Initiations and Omissions: Overreaction or Drift? **AU** Michaely, Roni; Womack, Kent; Thaler, Richard H.

Yamada, Tadashi

TI Effectiveness of Government Policy: An Experience From a National Health Care System. **AU** Yamada, Tetsuji; Kim, Chang Gun; Yamada, Tadashi; Noguchi, Haruko.

Yamada, Tetsuji

PD June 1994. **TI** Effectiveness of Government Policy: An Experience From a National Health Care System. **AU** Yamada, Tetsuji; Kim, Chang Gun; Yamada, Tadashi; Noguchi, Haruko. **AA** Yamada, Tetsuji: National Bureau of Economic Research. Kim and Noguchi: CUNY. Yamada, Tadashi: University of Tsukuba. **SR** National Bureau of Economic Research Working Paper: 4786; National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. **PG** 25. **PR** $5.00. **JE** I11, I18, J14. **KW** Health Care. Elderly. Japan.

AB This paper examines the trade-off between the length of treatment days and the units of service provided per day for elderly patients in the context of the initiative taken by the Ministry of Health and Welfare of Japan to discourage lengthy hospital treatment and/or stay by elderly patients. By using three leading diseases among the elderly in Japan (cancer, heart related disease, and mental illness) and separating care utilization into an episode by types of treatment, our results suggest that the government measures function but they do not effectively work to reduce increases in medical expenditures by the elderly under the fee-for-service basis. The evidence shows the interdependency between days and quantity of services, and the larger impact of services on days than days on services. Providers are more able to raise their revenue by additional services, than by additional treatment days, under the government's current cost containment policy toward the elderly care. For the so-called skilled type of treatment services (injection, general treatment, consultation and operation), the results on all elderly ages 65 and over without disease classification show some statistically significant positive impact on length of treatment in days and quantity of services provided per day. For the so-called material type of service (medication and examination), medical service providers are likely to prescribe more drugs as the price of drugs falls under the current strict drug price control by the Japanese government.

Yeung, Bernard

TI Rent Seeking and Protectionism in the American Steel Industry: An Empirical Analysis. **AU** Lenway, Stefanie; Morck, Randall; Yeung, Bernard.

TI Section 337 and the Protection of Intellectual Property in the United States: The Complainants and the Impact. **AU** Mutti, John; Yeung, Bernard.

Yu, Min-Teh

TI How Much Did Capital Forbearance Add to the Tab for the FSLIC Mess? **AU** Kane, Edward J.; Yu, Min-Teh.

Zemel, Amos

TI Endangered Species and Natural Resource Exploitation: Extinction vs. Coexistence. **AU** Tsur, Yacov; Zemel, Amos.

Zhang, Z. John

PD May 1994. **TI** Labor Standards, Trade and Industrial Competitiveness. **AA** University of Michigan. **SR** University of Michigan Research Forum on International Economics Discussion Paper: 356; Professor Robert M. Stern, Institute of Public Policy Studies, University of Michigan, 440 Lorch Hall, Ann Arbor, MI 48109-1220. **PG** 26. **PR** $4 (U.S. Funds) for shipping and handling (checks should be payable to: IPPS. Enclose with order). **JE** F13, J53. **KW** Commercial Policy. Protection.

AB This analysis discusses occupational safety and health (OSH) standards in the context of international trade under the assumption that these standards are important to workers. I conclude that open trade raises OSH standards in a developing economy through the industry expansion effect and the income effect. The imposition of higher OSH standards will raise the production costs of an industry. Paradoxically, however, the industry's competitiveness can improve since the variable component of production costs may decrease as OSH standards rise. The paper also discusses the political economy of legislating high OSH standards in a developing economy.

PD May 1994. **TI** Trade Protection and Industrial Competitiveness. **AA** University of Michigan. **SR** University of Michigan Research Forum on International Economics Discussion Paper: 357; Professor Robert M. Stern, Institute of Public Policy Studies, University of Michigan, 440 Lorch Hall, Ann Arbor, MI 48109-1220. **PG** 26. **PR** $4 (U.S. Funds) for shipping and handling (checks should be payable to: IPPS. Enclose with order). **JE** F13, L23. **KW** Commercial Policy. Protection. Industrial Competition.

AB This analysis develops a two-period investment model and a general approach to examine the incentive environment a protectionist program creates for a protected industry. It shows that, while protection rents can induce an oligopolistic industry to invest more in cost-reducing technologies through creating direct and strategic gains, the accompanying institutional elasticity of protection invites rational protection-seeking underinvestment. It concludes that a protectionist program in an elastic institutional setting is likely to impede the growth of competitiveness of the protected industry rather than to improve it. The paper also shows how a protectionist program can distort a firm's incentives such that larger and more competitive firms tend to drag their feet in cost-reducing investment.

Zhou, Chunsheng

PD September 1994. **TI** Dynamic Portfolio Choice and Asset Pricing With Heterogeneous Information (I): Completely Ranked Information Sets. **AA** Princeton University. **SR** Princeton Financial Research Center Memorandum: 146; Financial Research Center, Department of Economics, Princeton University, Princeton, NJ 08544-1021. **PG** 62. **PR** $3.00 for U.S. mailings; $6.00 for foreign mailings. **JE** G11, G12, G14. **KW** Asymmetric Information. CAPM. Dynamic Portfolio Choice. Multi-Asset Model. Noise.

AB This paper presents a multi-asset intertemporal general equilibrium model of portfolio choice and asset pricing which allows for both noise and asymmetric information. The model contains appealing closed-form solutions to the rational expectations equilibrium and keeps most of the tractable properties of the Markowitz-Sharpe-Lintner CAPM. I find that in a multi-asset market, the existence of noise makes the less informed investors face an adverse selection problem, and therefore increases the equity premium. The paper has a number of interesting findings about interactions between stock prices and between portfolio choices of differently informed investors which cannot be found in a single-asset or a static model.

PD September 1994. **TI** Dynamic Portfolio Choice and Asset Pricing With Heterogeneous Information (II): Differential Information Sets. **AA** Princeton University. **SR** Princeton Financial Research Center Memorandum: 147; Financial Research Center, Department of Economics, Princeton University, Princeton, NJ 08544-1021. **PG** 45. **PR** $3.00 for U.S. mailings; $6.00 for foreign mailings. **JE** G11, G12, G14. **KW** Differential Information. ARMA Learning. Dynamic Portfolio Choice. Multi-Asset Model. Noise.

AB Zhou (1994) presents a multi-asset intertemporal general equilibrium model of portfolio choice and asset pricing which allows for both noise and asymmetric information. This paper is closely related to that one. It considers portfolio decision in a more general information framework (i.e., heterogeneous information sets that are not completely ranked according to statistical dominance). The model generates a number of interesting results and provides a rationale for investors to hold less than perfectly-diversified portfolios. A method of Sargent is used to resolve the "infinite regress" problem which is common to dynamic models with differential information and to derive rational expectations equilibria.

Zhu, Hang

TI Numerical Analysis of a Free-Boundary Singular Control Problem in Financial Economics. **AU** Hindy, Ayman; Huang, Chi-fu; Zhu, Hang.

TI Optimal Consumption and Portfolio Rules with Durability and Habit Formation. **AU** Hindy, Ayman; Huang, Chi-fu; Zhu, Hang.

Zou, Gang

TI A Dynamic Analysis of Chinese Enterprise Behavior Under Alternative Reform Regimes: A Feasibility Study. **AU** Day, Richard H.; Wang, Zhigang; Zou, Gang.

Zwiebel, Jeffrey H.

PD July 1992. **TI** Corporate Conservatism, Herd Behavior and Relative Compensation. **AA** Stanford University. **SR** Stanford Graduate School of Business Research Paper: 1205; Graduate School of Business, Stanford University, Stanford, CA 94305-5015. **PG** 47. **PR** no charge. **JE** G31, D21, L14. **KW** Managerial Reputation. Herd Behavior. Corporate Conservation. Innovations.

AB This paper demonstrates that in a simple setting with managerial concern for reputation and asymmetric information on ability, most managers may refrain from undertaking innovations which stochastically dominate an industry standard. Common components of uncertainty in outcome lead the market to form inferences of managerial ability based on relative performance. Managers who undertake the industry standard are in turn evaluated with a more accurate benchmark than those innovating. Discontinuities in compensation when performance is low (due to firings) lead managers to have differing valuations of an accurate benchmark, depending on type. We find that very high and very low ability managers are more likely to undertake superior innovations than those of average ability. When the expected improvement under the new action is small, most managers with access to the innovation choose to forgo it in favor of the industry standard.