high marginal tax rates will be encountered. They are not limited to the rich. In fact, people of modest incomes who participate in a pension plan over a long career may face such rates. The paper presents a comprehensive examination of the taxation of pensions and discusses the optimal responses of households to the incentives created by the tax system.

The Econometrics of Ultra-High Frequency Data

Robert F. Engle

NBER Working Paper No. 5816
November 1996
Asset Pricing

Ultra-high frequency data are complete transactions data that inherently arrive at random times. Marked point processes provide a theoretical framework for analysis of such datasets. The ACD model that I developed with Russell (1995) is applied to IBM transactions data to develop semi-parametric hazard estimates and measures of instantaneous conditional variances. The variances are influenced negatively by surprisingly long durations as suggested by some of the market micro-structure literature.

Private and Public Supply of Liquidity

Bengt R. Holmstrom and Jean Tirole

NBER Working Paper No. 5817
November 1996
JEL Nos. D21, E62, G32
Corporate Finance

This paper addresses a basic yet unresolved question: do claims on private assets provide sufficient liquidity for the productive sector to function efficiently? Or, does the state have a role in creating liquidity and regulating it, either through adjustments in the stock of government securities or by other means?

In our model, firms can meet future liquidity needs in three ways: by issuing new claims and diluting old ones; by obtaining a credit line from a financial intermediary; and by holding claims on other firms. When there is no aggregate uncertainty, these instruments are sufficient for attaining the socially optimal (second-best) contract between investors and firms. Such a contract imposes both a maximum leverage ratio and a liquidity constraint on firms. Intermediaries coordinate the use of liquidity. Without intermediation, scarce liquidity may be wasted and the social optimum may not be attainable.

When there is only aggregate uncertainty, the private sector is no longer self-sufficient in terms of liquidity. The government can improve liquidity by issuing bonds that commit future consumer income. Government bonds command a liquidity premium over private claims. The supply of liquidity can be managed by loosening liquidity (boosting the value of its securities) when the aggregate liquidity shock is high and tightening liquidity when the shock is low. Thus this paper provides a microeconomic example of government supplied liquidity as well as of the possibility of active government policy.

The Myth of the Patient Japanese: Corporate Myopia and Financial Distress in Japan and the United States

Brian J. Hall and David E. Weinstein

NBER Working Paper No. 5818
November 1996
Productivity

It is widely believed that the stock market-oriented U.S. financial system forces corporate managers to behave myopically relative to their Japanese counterparts, who operate in a bank-based system. We hypothesize that if U.S. firms are more myopic than Japanese firms, then episodes of financial distress (when myopia should be most pronounced) should cause U.S. firms to decrease their R and D spending (our main proxy for long-term investment) more than Japanese firms would. We find no evidence that this is the case. In addition, we show that Japanese firms do not invest more than U.S. firms after the onset of distress. Our results hold even when we compare U.S. firms to Japanese "group" firms, which have close financial ties to their banks and are thought to be the least myopic (and the most able to weather distress). The results also withstand a variety of robustness checks. Our findings that U.S. and Japanese firms respond similarly to financial distress cast doubt on the view that U.S. managers are more short-sighted than their Japanese counterparts.

The Underreaction Hypothesis and the New Issue Puzzle: Evidence from Japan

Jun-Koo Kang, Yong-Cheol Kim, and René M. Stulz

NBER Working Paper No. 5819
November 1996
Asset Pricing, Corporate Finance

We investigate the long-term performance of Japanese firms that issue convertible debt or equity. We find that these firms perform poorly even though the stock-price reaction to announcements of convertible debt and equity issues is not significantly negative for Japanese firms, and Japanese firms do not issue equity or convertible debt following strong positive abnormal returns. Whereas underperformance in the United States appears to be concentrated in the smaller firms and in firms with a high market-to-book ratio, this is not the case in Japan. The underperformance of Japanese issuing firms

cannot be understood in terms of the underreaction hypothesis that some have advanced as an explanation for the poor returns of U.S. issuing firms.

The Changing Structure of Cost and Demand for the U.S. Telecommunications Industry

M. Ishaq Nadiri and Banani Nandi

NBER Working Paper No. 5820
November 1996
JEL Nos. L5, L7, 03, 032
Productivity

We formulate a multiproduct structural model to examine the evolution of the structure of production and demand, and the dynamic interaction between the two, in the context of the U.S. telecommunications industry over an extended period, from 1935 to 1987. We estimate the degree of scale economies, cost elasticities, input price elasticities, and the determinants of output demand. We also examine the contribution of the quasi-fixed inputs, such as R and D and physical capital, in the evolution of this industry. Using our analytical framework and a long sample period, we examine under different economic conditions, market structures, and regulatory environments a number of important issues, such as the stability of the cost and demand structure over time, the changing characteristics of demand for local and toll services, and the variation of price-cost margin over time. Use of this approach makes it possible to analyze the effects of the 1984 divestiture of the Bell System on the cost structure, employment, and capital formation of the telecommunications industry in the United States.

Inflation, Real Interest Rates, and the Bond Market: A Study of United Kingdom Nominal and Index-Linked Government Bond Prices

David G. Barr and John Y. Campbell

NBER Working Paper No. 5821
November 1996
JEL Nos. E31, E43
Asset Pricing, Monetary Economics

We estimate expected future real interest rates and inflation rates from observed prices of U.K. nominal and index-linked government bonds. Our estimation method takes account of imperfections in the indexation of U.K. index-linked bonds. It assumes that expected log returns on all bonds are equal, and that expected real interest rates and inflation follow simple time-series processes whose parameters can be estimated from the cross-section of bond prices. The extracted inflation expectations forecast actual future inflation more accurately than nominal yields do. The estimated real interest rate is highly variable at short horizons, but comparatively stable at long horizons. Changes in real rates and expected inflation are strongly negatively correlated at short horizons, but not at long horizons.

What We Know and Do Not Know about the Natural Rate of Unemployment

Olivier J. Blanchard and Lawrence F. Katz

NBER Working Paper No. 5822
November 1996
JEL Nos. E20, E30, J60
Economic Fluctuations and Growth, Labor Studies

Over the past three decades, a large amount of research has attempted to identify the determinants of the natural rate of unemployment. We assess this body of work in this paper and reach two main conclusions: 1) there has been considerable theoretical progress over the past 30 years. A framework has emerged which we present, showing how it can be used to think about the relation between technological progress and unemployment, for example. 2) Empirical knowledge lags behind. Economists do not have a good quantitative understanding of the determinants of the natural rate, either across time or across countries. We study two particular issues, the relation of wages to unemployment and the rise of European unemployment.

Changes in Wage Inequality, 1970–1990

Jacob Mincer

NBER Working Paper No. 5823
November 1996
Labor Studies

Differences in wages between skill groups declined in the 1970s and rose in the 1980s, but aggregate wage inequality grew throughout the period. This divergence remains a puzzle in recent studies of U.S. wage inequality. In this paper, I use the human capital approach to explain the sometimes divergent paths of intergroup and intragroup inequality. With this approach, wages are the return on cumulated investments in human capital. In turn, interpersonal distributions of investments and their marginal rates of return are determined by individual supply and demand curves. Recent studies have shown that relative growth of the supply of human capital in the 1970s and of demand in the 1980s generated the U-shaped time pattern of ("between group") skill differentials. This paper shows that a widening of the dispersion among individual demand curves started in the 1970s and generated a continuous expansion of ("within group") residual wage inequality. The widening dis-

persion in demand curves reflects a growing skill bias in the demand for labor. Aggregate inequality grew throughout the period, because within-group inequality accounts for the larger part of total inequality. The data also indicate that wage inequality grew in the face of stability in the dispersion of human capital, and despite the likely decline in inequality of opportunity, as reflected in the decline in dispersion among supply curves.

Liberalization of Capital Flows in Korea: Big Bang or Gradualism?

Dongchul Cho and Youngsun Koh

NBER Working Paper No. 5824
November 1996
JEL Nos. F4, F2, E6

Capital market liberalization has become an irreversible trend in Korea since 1992. With the current level of high interest rates in Korea, however, drastic full-scale liberalization certainly would attract a large amount of capital inflows and cause the Korean won to appreciate. This would affect the price competitiveness of Korean products in international markets, which could bring about significant macroeconomic instability in an economy like Korea's that relies heavily on external transactions. Through simulations using a macro-model based on neoclassical long-run convergence and Keynesian short-run dynamics, we attempt to provide some quantitative assessments of several alternative policy choices including the speed of liberalization.

New Activities, the Welfare Cost of Uncertainty, and Investment Policies

Joshua Aizenman

NBER Working Paper No. 5825
November 1996
JEL Nos. F12, F21, F23
International Trade and Investment

This paper analyzes the effect of policy uncertainty on the formation of new activities in a Romer (1994)-type economy, in which the productivity of labor increases with the number of capital goods. Adding a new capital good requires a capital-specific setup cost, undertaken prior to using the capital good. Agents are averse to disappointment, putting greater utility weight on downside risk [as modeled by Gul (1991)]. Policy uncertainty is induced by "revenue seeking" administrations, which tend to tax the "quasi fixed" capital and ignore long-term costs. Disappointment aversion implies that investment, labor, and capitalists' income drop at a rate proportional to the standard deviation of the tax rate. Hence, policy uncertainty induces *first-order* adverse effects, but also leads to *second-order* effects when consumers maximize the conventional expected utility. The adverse effects of policy uncertainty can be overcome partially by a proper investment policy. This paper interprets the tax concessions granted to multinationals as a commitment device that helps to overcome the adverse implications of policy uncertainty.

Taxation and Economic Growth

Eric M. Engen and Jonathan S. Skinner

NBER Working Paper No. 5826
November 1996
Public Economics

Tax reforms sometimes are touted to have strong macroeconomic growth effects. Using three approaches, we consider the impact of a major tax reform on the long-term growth rate of the U.S. economy. First we examine the historical record of the U.S. economy to evaluate whether tax cuts have been associated with economic growth. Second we consider the evidence on taxation and growth for a large sample of countries. Finally, we use evidence from micro-level studies of labor supply, investment demand, and productivity growth. Our results suggest modest effects, on the order of 0.2 to 0.3 percentage point differences in growth rates in response to a major tax reform that changes all marginal tax rates by 5 percentage points and average tax rates by 2.5 percentage points. Nevertheless, even such small effects can have a large cumulative impact on living standards.

Trade Reform with a Government Budget Constraint

James E. Anderson

NBER Working Paper No. 5827
November 1996
JEL Nos. H21, F13
International Trade and Investment

The standard theory of trade reform uses a passive government budget constraint, in which changes in tariff revenue are offset by changes in lump sum transfers. This paper offers a general framework for the analysis of trade reform when the government budget constraint is active, meaning that tariff revenue cuts must be offset by distortionary changes in fiscal policy: cuts in the supply of public goods or alternative tax increases. Useful and simple new expressions characterizing welfare-improving trade reform compare the marginal cost of funds (MCF) of trade taxes with the MCF of consumption taxes. The MCF expressions provide an intuitive index number that is operational with computable general equilibrium models. The theoretical

analysis and an application to Korean data in 1963 both cast doubt on the desirability of tariff cuts in convex competitive economies with active government budget constraints.

Institutions and Labor Reallocation

Giuseppe Bertola and Richard Rogerson

NBER Working Paper No. 5828
November 1996
JEL Nos. J31, J63
Economic Fluctuations and Growth

Despite stringent restrictions on dismissal in most European countries, rates of job creation and destruction are remarkably similar across European and North American labor markets. This paper shows that relative-wage compression is conducive to higher employer-initiated job turnover. We argue that wagesetting institutions and job-security provisions differ across countries in ways that are both consistent with rough uniformity of job turnover statistics and readily explained by intuitive theoretical considerations. When viewed as a component of the mix of institutional differences in Europe and North America, European dismissal restrictions are essential to a proper interpretation of both similar patterns in job turnover and marked differences in unemployment flows.

Continuous Training in Germany

Jörn-Steffen Pischke

NBER Working Paper No. 5829
November 1996
JEL Nos. J24, J31
Labor Studies

Using data from the German Socioeconomic Panel, I describe the incidence, attributes, and outcomes of continuous training received by workers in Germany between 1986 and 1989. Further training is primarily a white collar phenomenon and is concentrated among the more highly educated, and in the service sector and in public administration. Much of this training seems to be general and provided to workers by their employers at no direct cost. On the other hand, the training does not seem to result in large short-run wage gains, especially for men. These results are somewhat at odds with the conventional models about the financing of human capital formation.

Conditioning Manager Alphas on Economic Information: Another Look at the Persistence of Performance

Jon A. Christopherson, Wayne E. Ferson, and Debra A. Glassman

NBER Working Paper No. 5830
November 1996
JEL Nos. G1, G2
Asset Pricing

We evaluate persistence in the performance of institutional equity managers. Building on recent work on *conditional performance evaluation,* and using time-varying conditional expected returns and risk measures, we find that the investment performance of pension fund managers persists over time. A conditional approach is better able to detect this persistence and to predict the future performance of the funds than traditional methods are. The performance persistence is concentrated especially in the managers with negative prior-period conditional alphas.

Health Insurance for Poor Women and Children in the United States: Lessons from the Past Decade

Jonathan Gruber

NBER Working Paper No. 5831
November 1996
JEL Nos. I18
Health Care, Labor Studies, Public Economics, Well-Being of Children

The Medicaid program, which provides health insurance coverage to low-income women and children, has expanded dramatically over the past decade. This expansion provides a "natural laboratory" for learning about the effect of eligibility for public health insurance on insurance coverage, health utilization, and health outcomes. This paper provides an overview of what has been learned about these questions from studying the expansions.

Medicaid eligibility rose steeply during 1984–92, but coverage rose much less sharply, because of limited takeup of benefits. This is due in part to the fact that many eligibles already had private insurance coverage; the evidence suggests that a large share of new Medicaid enrollees dropped their private coverage to join the program. Nevertheless, utilization of preventive care rose substantially as a result of the expansions, and there were significant improvements in health outcomes, specifically in infant and child mortality.

While these reductions in mortality came at a significant cost to the Medicaid program, the cost per life saved was low relative to alternative uses of government funds. These findings highlight both the potential benefits of public insurance policy and the importance of appropriately targeting scarce public health dollars.

Distributional Implications of Introducing a Broad-Based Consumption Tax

William M. Gentry and R. Glenn Hubbard

NBER Working Paper No. 5832
November 1996
JEL No. H2
Public Economics

As a tax base, "consumption" sometimes is alleged to be less fair than "income," because the benefits of not taxing capital income accrue to high-income households. We argue that, despite the common perception that consumption taxation eliminates all taxes on capital income, consumption and income taxes actually treat much of what is commonly called capital income similarly. Indeed, relative to an income tax, a consumption tax exempts only the opportunity cost of capital. In contrast to a pure income tax, a consumption tax replaces capital depreciation with capital expensing. This change eliminates the tax on the opportunity cost of capital, but does not change — relative to the income tax — the tax treatment of capital income that arises from a risk premium, inframarginal profit, or luck. Because these components of capital income are skewed more heavily toward the top of the distribution of economic well-being, a consumption tax is more progressive than would be estimated under conventional distributional assumptions. We prepare distribution tables and demonstrate that this modification is quantitatively important.

Research Productivity in a System of Universities

James D. Adams and Zvi Griliches

NBER Working Paper No. 5833
November 1996
JEL Nos. D2, L3, O3
Productivity

The focus of this paper is the research performance of a system of universities and sciences. Using data from the United States during the 1980s, we study the relationship between research output and R and D in eight different fields of science. We begin at the field level by examining the time-series behavior of outputs (measured by papers and citations) in relation to R and D. At this level we find approximate parity between growth rates of papers and citations and the rate of growth of R and D, with mathematics and agriculture, which diverge from parity in opposite directions, being exceptions. This suggests the predominance of a CRS production process for new scientific results.

We then conduct an analysis at the university and field level. For this purpose we use small samples of leading U.S. research universities. We then find that returns to R and D are diminishing in nearly every case. Two explanations are offered for the divergence in results. The first points to the importance of research spillovers between universities and fields, which are excluded at the university level but not at the system level. The second explanation is that errors in R and D are more important at the university level. The errors arise mostly from misclassification of R and D by university and field. Together these explanations emphasize the relevance of research spillovers and of the system-wide aspects of university research. They also pinpoint the sources of the many failings of contemporary data on science resources, and stress the value of better accounting for university R and D, resources, and outputs.

In addition we explore some efficiency aspects of the university system. Our findings suggest that leading schools have lower average and marginal costs of performing research than lesser institutions, and that leading institutions have a comparative advantage at generating higher quality, more highly cited research. In our comparisons of private and public institutions the results are not as one-sided, yet they suggest once again that private schools have a comparative advantage at generating more highly cited research.

Medicaid and Service Use among Homeless Adults

Sherry A. Glied, Christina Hoven, Robert Moore, and A. Bowen Garrett

NBER Working Paper No. 5834
November 1996
JEL Nos. I11
Health Care

Expansions of Medicaid eligibility are intended to improve access to care, and to shift care from emergency rooms and inpatient hospitalization to more appropriate sites. We examine the effect of receiving Medicaid on the level and site of medical service utilization using data from 1985 and 1987 surveys of New York City homeless single men and women.

Simple regressions of Medicaid on the use of health services among homeless adults indicate that Medicaid significantly increases the likelihood that these individuals receive services, especially emergency and inpatient hospital services. We test this result in further analyses that control for health status, use instrumental variables procedures, and examine differences between a similar population in 1985 and 1987. These analyses suggest that Medicaid neither increases nor diminishes

access to emergency rooms. We find some evidence that suggests that Medicaid does improve access to nonhospital medical care.

On the Validity of Season of Birth as an Instrument in Wage Equations: A Comment on Angrist and Krueger's "Does Compulsory School Attendance Affect Schooling and Earnings?"

John Bound and David A. Jaeger

NBER Working Paper No. 5835
November 1996
JEL Nos. J24
Labor Studies

In an important and provocative paper, "Does Compulsory School Attendance Affect Schooling and Earnings?", Angrist and Krueger use quarter of birth as an instrument for educational attainment in wage equations. To support a causal interpretation of their estimates, they argue that compulsory school attendance laws *alone* account for the association between quarter of birth and earnings. In this note we present evidence that the association between quarter of birth and earnings is too strong to be explained fully by compulsory school attendance laws in the samples studied by Angrist and Krueger. Moreover, while the association between quarter of birth and educational attainment was weaker for more recent cohorts, we found no evidence that the strength of the relationship between quarter of birth and earnings also was weaker in those cohorts. In addition, we present evidence that suggests the association between quarter of birth and earnings or other labor market outcomes existed for cohorts that were not bound by compulsory school attendance laws. Our results call into question the validity of any causal inferences based on Angrist and Krueger's estimates regarding the effect of education on earnings.

Computers and Productivity in France: Some Evidence

Nathalie Greenan and Jacques Mairesse

NBER Working Paper No. 5836
November 1996
JEL Nos. C20, C81, D24, L63, O33
Productivity

In this paper, we make a first attempt at exploring the relationship between computer use and productivity in French manufacturing and services industries. We match information on computer utilization in the workplace collected at the employee level in 1987, 1991, and 1993 with firm-level information on productivity, capital intensity, and average wage. Based on the responses of very few interviewed employees (only one for 75 percent of the firms in our sample), our measure of firm computer use is subject to important sampling errors; hence our estimates of computer impacts are affected strongly by the downward biases of random errors in variables. Nonetheless, we find coherent and persuasive evidence that the computer impacts on productivity are indeed positive, and that the returns to the firm should be at least in the same range as the returns to the other types of capital. We also show that the sampling errors in measurement biases can be assessed. We make the general point that econometric studies of the firm can be enriched effectively and substantially by using information collected from workers, even if very few of them are surveyed per firm.

You Can't Take It with You? Immigrant Assimilation and the Portability of Human Capital

Rachel M. Friedberg

NBER Working Paper No. 5837
November 1996
JEL Nos. J61, J24
Labor Studies

The national origin of an individual's human capital is a crucial determinant of its value. Education acquired abroad is valued significantly less than education obtained domestically. This difference can explain fully the earnings disadvantage of immigrants relative to comparable natives in Israel. Variation in the return to foreign schooling across origin countries may reflect differences in its quality and in compatibility with the host labor market. Three factors — language proficiency, domestic labor market experience, and further education following immigration — appear to raise the return to education acquired abroad, suggesting a compound benefit of policies encouraging immigrants to obtain language and other training.

Do Balanced Budget Rules Work? U.S. Experience and Possible Lessons for the EMU

Robert P. Inman

NBER Working Paper No. 5838
November 1996
JEL Nos. D78, H61, H62, K23
Public Economics

The "Excessive Deficit Procedure" of the Maastricht Treaty on Economic and Monetary Union (EMU) proposes two fiscal convergence conditions for entry and continued membership: 1) a country's overall budget deficit for each fiscal year must be equal to or below 3 percent of GDP, and 2) a country's stock of gross public debt must be equal to or less than 60 percent of GDP. Will the current EMU Excessive Deficit Procedure work as an effective constraint on countries' deficit behaviors? When understood within the context of a political economy model of deficit behavior, recent U.S. evidence on balanced budget rules strongly suggests that effective deficit constraints: must use ex post deficit accounting; must be constitutionally grounded; must be enforced by an open and politically indepen-

dent review panel or court, with significant sanctions for violations; and must be costly to amend. While ex post, constitutionally grounded, and difficult to amend, current EMU rules are not presently enforced by an open and politically independent review panel using significant penalties. The ability of the EMU's deficit procedure to constrain "excessive" country borrowing is therefore in doubt. I discuss institutional reforms that will strengthen the EMU's balanced budget procedures.

International Implications of German Unification

Hans-Werner Sinn

NBER Working Paper No. 5839
November 1996
JEL Nos. F01
International Finance and Macroeconomics

This paper advances the hypothesis that the EUS crisis was caused by German unification. The unification implied a massive demand for resources which parallels the U.S. resource demand following Reagan's tax reforms in the 1980s. The resource demand revised German interest rates relative to the rest of the world, bringing about devaluations of other European currencies. This paper identifies those European currencies which currently are undervalued.

The Adoption of Workers' Compensation in the United States, 1900–1930

Price V. Fishback and Shawn E. Kantor

NBER Working Paper No. 5840
November 1996
JEL Nos. J38, K31, N41, N42
Development of the American Economy

The adoption of workers' compensation in the 1910s was, from a variety of perspectives, a significant event in the economic, legal, and political history of the United States. The legislation represented the first instance of a widespread social insurance program in the United States, setting the stage for the later adoption of federal government programs for unemployment insurance, old-age pensions, and health insurance. In this paper, we show that the adoption of workers' compensation was not the result of employers' or workers' "capturing" the legislation to secure benefits at the expense of the other group. Nor was the success of compensation legislation simply the outcome of Progressive Era social reformers' demands for protective legislation. Workers' compensation was enacted rapidly across the United States in the 1910s because the key economic interest groups with a stake in the legislation — employers, workers, and insurance companies — anticipated benefits from resolving an apparent "crisis" in the negligence liability system. During the first decade of the twentieth century, workplace accident risk rose, state legislatures adopted a series of employers' liability laws, and court decisions limited employers' defenses in liability suits, all of which combined to substantially increase the uncertainty of the negligence liability system.

Volatility and the Investment Response

Joshua Aizenman and Nancy P. Marion

NBER Working Paper No. 5841
November 1996
JEL Nos. F21, E2, O1
International Trade and Investment

We use the World Bank decomposition of aggregate investment shares into their private and public components to test for the correlation between volatility and investment in a set of developing countries. We uncover a statistically significant negative correlation between various volatility measures and private investment, even after adding the standard control variables. No such correlation is uncovered when the investment measure is the sum of private and public investment spending. Indeed, public investment spending is correlated positively with some measures of volatility.

We also use the new World Bank data to redo the Ramey and Ramey (1995) test for a correlation between investment and the standard deviation of innovations to a forecasting equation for growth. While Ramey and Ramey found no significant correlation using aggregate investment data, we find a negative and highly significant relationship between innovation volatility and private investment in developing countries. These findings suggest that the detrimental impact of volatility on investment may be difficult to detect using aggregate data.

When Are Fixed Exchange Rates Really Fixed?

Andrés Velasco

NBER Working Paper No. 5842
November 1996
JEL Nos. E52, F31, O23
International Finance and Macroeconomics

This paper analyzes the sustainability of fixed exchange rates by extending the Barro-Gordon framework to a fully dynamic context in which the level of a state variable (in this case, debt) determines the payoffs available to the government at each point in time. The model yields the following results: If debt is sufficiently low, there is an equilibrium in which the government does not devalue. For an intermediate range of debt levels, the government devalues in response to an attack but not otherwise, so self-fulfilling attacks can

occur. Finally, for yet another debt range, there can be sunspot equilibriums in which an attack (and the corresponding devaluation) is likely to occur.

The Effects of Short-Term Variation in Abortion Funding on Pregnancy Outcomes

Philip J. Cook, Allan M. Parnell, Michael J. Moore, and Deanna Pagnini

NBER Working Paper No. 5843
November 1996
JEL Nos.I18
Economics of Health Care

In 1978 North Carolina created a special fund to pay for abortions for indigent women. The appropriations for that fund have proven inadequate during five of the years in which it has been in operation, with the result in each case being that no state funding was available for several months. This on-again, off-again funding pattern provides a natural experiment for estimating the short-run effect of changes in the cost of abortions on the number of abortions (and births) to indigent women. We use a unique dataset obtained from the state which includes individual records for all pregnancies terminated since 1978. For various demographic groups, we estimate the effects of the termination of funding on the abortion rate per month, the birth rate per month (adjusted to take account of variations in gestation periods), and the probability that a pregnancy will end in abortion. The results suggest that the decisions of poor black women aged 18–29 are particularly sensitive to the availability of abortion funding. Overall, approximately three in every ten pregnancies that would have resulted in an abortion if state funds had been available instead are carried to term.

Neoclassical Versus Endogenous Growth Analysis: An Overview

Bennett T. McCallum

NBER Working Paper No. 5844
November 1996
JEL Nos. O40, O30
Economic Fluctuations and Growth

This paper begins with an exposition of neoclassical growth theory, including several analytical results, such as the distinction between golden-rule and optimal steady states. Next it emphasizes that the neoclassical approach fails to provide any explanation of steady-state growth in per-capita values of output and consumption, and cannot plausibly explain actual growth differences by reference to transitional episodes. I present and discuss three types of endogenous growth models, all of which attempt to provide explanations of ongoing per-capita growth. The likelihood of strictly justifying steady-state growth with these models is very small, since it would require highly special parameter values, but the models' predictions may be reasonably accurate nevertheless.

Is There a Role for Monetary Aggregates in the Conduct of Monetary Policy?

Arturo Estrella and Frederic S. Mishkin

NBER Working Paper No. 5845
November 1996
JEL Nos. E52
Economic Fluctuations and Growth and Monetary Economics

We examine the potential policy role of monetary aggregates by attempting to use them as effectively as possible in the analysis of empirical relationships. We consider three possible roles: information variables; indicators of policy actions; and instruments in a policy rule. These require successively stronger and more stable relationships between the aggregates and the final policy targets. Our results show that in the United States since 1979, the monetary aggregates fall considerably short of those requirements; results with German M3 are hardly more favorable. We also investigate whether empirical relationships reflect causal relationships because of the use of these monetary aggregates in countercyclical policy. The results are reasonably consistent with that notion in the case of interest rates, but not in the case of the aggregates.

Manufactured Inequality

Sherwin Rosen

NBER Working Paper No. 5846
December 1996
Labor Studies

Many discrete life choices — including where to live, what kind of job to hold, and consumption lifestyle — are stratified by income. Stratification and sorting often manifest state-dependent preferences in which the marginal utility of income (or consumption) depends on the outcome of earlier choices. For example, one can choose to live a quiet life in the country, where money buys few things, or can choose a more active and exciting lifestyle in a large city, where money has greater value because of all the goods that are available. The natural market equilibrium stratification is for rich people to live in the city, where their money has more value, and for poor people to live in the country, where money is less productive. But before location is chosen, the a priori von Neuman-Morgenstern utility function over both choices can take the Friedman-Savage form, providing pareto efficient social demands for *inequality*. If there is not enough initial inequality to produce the socially optimal stratification, then inequality is manufactured socially. People voluntarily participate in gambles and

lotteries in which the winners are rich and live in exciting places and the losers are poor and choose the quiet life. There is a "natural rate of inequality."

Infrastructure Capital and Economic Growth: How Well You Use It May Be More Important Than How Much You Have

Charles R. Hulten

NBER Working Paper No. 5847
December 1996
Productivity

This paper shows that low and middle income countries that use infrastructure inefficiently pay a growth penalty in the form of a much smaller benefit from their investments in infrastructure. The magnitude of this penalty is apparent when the growth experience of Africa is compared to that of East Asia: over one quarter of the differential growth rate between these two regions can be attributed to the difference in their use of infrastructure resources. At the same time, the difference attributable to new public capital formation is negligible. Comparing high and low growth rate economies conveys an even stronger impression: more than 40 percent of the growth differential is attributable to the efficiency effect, making it the single most important explanation of differential growth performance.

The Demise of Double Liability as an Optimal Contract for Large-Bank Stockholders

Berry K. Wilson and Edward J. Kane

NBER Working Paper No. 5848
December 1996
JEL Nos. G2, N2
Corporate Finance

This paper tests the optimal-contracting hypothesis, drawing upon data from a natural experiment that ended during the Great Depression. The subjects of our experiment are bank stockholders. The experimental manipulation concerns the imposition of state or federal restrictions on the contracts they write with bank creditors. We contrast stockholders that were subject to the now-conventional privilege of limited liability with stockholders that faced an additional liability in liquidation tied to the par value of the bank's capital. Our tests show that optimal contracting theory can explain both the long survival of extended-liability rules in banking and why they were abandoned in the 1930s.

Bank Consolidation: A Central Banker's Perspective

Frederic S. Mishkin

NBER Working Paper No. 5849
December 1996
JEL No. G21
Economic Fluctuations and Growth and Monetary Economics

This paper looks at why bank consolidation has been taking place in the United States and what the structure of the banking industry might look like in the future. It then discusses the implications for the economy of bank consolidation and the challenge it poses for central bankers.

Tax Burden and Migration: A Political Economy Perspective

Assaf Razin and Efraim Sadka

NBER Working Paper No. 5850
December 1996
JEL Nos. F22, H2, J1
International Finance and Macroeconomics and Public Economics

The extent of taxation and redistribution policy is determined generally at a political-economy equilibrium by a balance between those who gain and those who lose from a more extensive tax-transfer policy. In a stylized model of migration and human capital formation, we find — somewhat against conventional wisdom — that low-skill migration may lead to a lower tax burden and less redistribution than no migration, even though the migrants (naturally) join the pro-tax cum-transfer coalition.

Optimal Government Spending and Taxation in Endogenous Growth Models

Giancarlo Corsetti and Nouriel Roubini

NBER Working Paper No. 5851
December 1996
JEL Nos. E62, O41
Public Economics

This paper analyzes optimal spending, tax, and financial policies using models of endogenous growth in which public spending is productive. We extend previous work in four directions: First, we analyze optimal policies when the government is allowed to borrow and lend, rather than being restricted to running a balanced budget in every period. Second, we develop a model with a separate sector for human capital accumulation. Therefore, the properties of optimal policies depend on whether government spending affects the productivity of the final goods sector or of the human capital accumulation sector. Third, we consider the policy implications of alternative assumptions about which factor of production benefits from the external effects of productive public goods. Fourth, we study the implications of restrictions on the menu of tax instruments available to the policy-maker. We contrast optimal tax rates on human and physical capital under different assumptions about technology and distribution. We analyze the welfare properties of public debt and assets.

Are Some Mutual Fund Managers Better Than Others? Cross-Sectional Patterns in Behavior and Performance

Judith Chevalier and Glenn Ellison

NBER Working Paper No. 5852
December 1996
JEL Nos. G23, G14, J41
Asset Pricing, Corporate Finance and Industrial Organization

In this paper we explore cross-sectional differences in the behavior and performance of mutual fund managers. In our simplest regression of a fund's excess market return on characteristics of its manager, we find that younger managers earn much higher returns than older managers, and that managers who attended colleges with higher average SAT scores earn much higher returns than managers from less selective institutions do. These differences appear to derive both from systematic differences in expense ratios and risk-taking behavior, and from additional systematic differences in performance: managers from higher-SAT schools have higher risk-adjusted excess returns. Managers with the "best" characteristics may beat the market on average. We also present a preliminary look at the labor market for mutual fund managers. Our data suggest that managerial turnover is more sensitive to performance for younger managers.

Product Standards Coalitions in a Market Without Borders

Alessandra Casella

NBER Working Paper No. 5853
December 1996
JEL Nos. F15, L16, R59
International Finance and Macroeconomics and International Trade and Investment

Traditional analyses in international trade identify standards as government regulations and investigate their potential for distortion of trade flows. In reality, however, private industry groups exercise critical influence on the determination of technical standards. The composition of these groups is affected by technology and market conditions, and in an integrated market the alliances of private firms are likely to cross national boundaries, generating harmonization "from the bottom." If standards are public goods whose ideal value differs across economic activities and countries, then economic integration should bring increased harmonization across countries and finer differentiation across products. Empirical evidence from the United States and the European Union, although mostly anecdotal, supports this prediction.

Effective Protection Redux

James E. Anderson

NBER Working Paper No. 5854
December 1996
JEL Nos. F13, D72
International Trade and Investment

This paper rehabilitates the concept of "effective rate of protection" (ERP) for use in political economy. I redefine the ERP for a sector here as the uniform tariff that is equivalent to the actual differentiated tariff structure in its effect on rents to residual claimants in the sector. The new ERP permits a political economic ranking of "how much protection is given" across sectors, since higher uniform tariff equivalents imply higher losses of welfare sacrificed to interest groups. The new ERP converges to the old ERP under a very special set of assumptions, and elsewhere generalizes the ERP concept to any economic structure in which residual claims are defined. I present numerical results for the new ERP for the U.S. economy in 1982, using the USDA/ERS computable general equilibrium model. The calculated old and new ERPs are not correlated significantly.

The Timing of Work Time Over Time

Daniel S. Hamermesh

NBER Working Paper No. 5855
December 1996
JEL No. J20
Labor Studies

The incidence of evening and night work declined sharply in the United States between the early 1970s and the early 1990s, while the fraction of work performed at the fringes of the traditional regular working day grew. The secular decline in evening and night work did not result from industrial shifts or demographic changes. It was greatest at the upper end of the wage distribution, slowest among workers in the lowest quartile of wages. The observed changes in timing are consistent with and magnify the increase in wage inequality in the United States that occurred during this period. They are explained easily by a model that views evening/night work as a disamenity, with rising real incomes causing workers to shift away from such work in the presence of only neutral technical change in the profitability of work at different times of day.

The Invisible Hand and the Grabbing Hand

Timothy Frye and Andrei Shleifer

NBER Working Paper No. 5856
December 1996
JEL No. 123
Economic Fluctuations and Growth and Public Economics

Evidence from a survey of 105 shopowners in Moscow and Warsaw shows that the reliance on private protection, as well as the burden of regulation and corruption, are much

greater in Moscow. The evidence suggests that the "invisible hand" model of government better fits the Warsaw local government, and the "grabbing hand" model is more appropriate for Moscow. The evidence implies that the singular focus on the speed of economic reforms in attempting to understand the success of transition is misplaced, and that the quality of government may be as essential.

Consumption and Portfolio Decisions When Expected Returns are Time Varying

John Y. Campbell and Luis M. Viceira

NBER Working Paper No. 5857
December 1996
JEL No. G12
Asset Pricing, Economic Fluctuations and Growth, and Monetary Economics

This paper proposes and implements a new approach to a classic unsolved problem in financial economics: the optimal choice of consumption and portfolio on the part of a long-lived investor facing time-varying investment opportunities. We approximate the choice problem by log-linearizing the budget constraint and Euler equations, and then derive an analytical solution to the approximate problem. When our model is calibrated to U.S. stock market data, it implies that intertemporal hedging motives greatly increase, and may even double, the average demand for stocks by investors whose risk-aversion coefficients exceed one.

Accounting for Outward Direct Investment from Hong Kong and Singapore: Who Controls What?

Linda Low, Eric D. Ramstetter, and Henry Wai-Chung Yeung

NBER Working Paper No. 5858
December 1996

After briefly introducing and examining the economic rationale for accounting for foreign direct investment (FDI), we survey information about outward investors from Hong Kong and Singapore. We aim to illuminate the implications of accounting for such FDI by geographical source or by country of ultimate beneficial owner. By any measure, it is clear that a very large portion of the FDI from these economies comes from foreign-controlled firms; hence ownership-based estimates of FDI from these two economies would be much smaller than the standard, geography-based estimates. However, because outward investment by foreign firms in Hong Kong and Singapore often involves substantial contributions from local staff and partners, we attempt to examine the extent of control over investment decisions exercised by these local staff and partners. Case studies from Hong Kong indicate a tendency for local control over investment decisions to be relatively strong in four types of foreign-controlled Hong Kong firms: recently acquired firms; firms with strong local entrepreneurial involvement; customer-oriented firms; and relocated holding companies. On the other hand, evidence from a sample of Thai affiliates of foreign-controlled Hong Kong or Singapore investors suggests that many of the investors were acting as part of an integrated network of foreign investors. Thus, although it is clear that local staff and partners have a large influence over the investment decisions of foreign-controlled outward investors in Hong Kong and Singapore, it does not appear that such firms are a majority among foreign-controlled investors in these economies.

The Characteristics of Multi-Unit Ownership in Franchising: Evidence from Fast-Food Restaurants in Texas

Arturs Kalnins and Francine Lafontaine

NBER Working Paper No. 5859
December 1996
JEL Nos. L2, L8, D4, D8
Industrial Organization

One empirical phenomenon that has received little attention in the franchising literature is the tendency for individual franchisees to own several units of a given franchised chain. Most current theories of franchising — based on incentives, information asymmetries, and strategic arguments — have little capacity to explain this phenomenon. In fact, several of them imply that all units should be independently-owned and operated. However, given the existence of multi-unit owners, most of the theories have implications for the extent to which units owned by a single owner should be: 1) geographically near each other; 2) located in areas where populations display similar demographic characteristics; and 3) contiguous to each other, that is, should share a market boundary.

We provide empirical evidence that restaurants of individual owners in the six largest fast-food chains in Texas are geographically close to each other, that they are located in areas with similar demographic characteristics, and that they are contiguous. This suggests, among other things, that franchising is not a strategic delegation device, and that the location of units is not determined by the franchisee's desire to diversify away risk. Instead, the minimization of monitoring or free-riding costs, and the franchisor's reliance on the franchisee's local market expertise, appear to be central concerns in the allocation of units across franchisees.

Fundamental Determinants of National Equity Market Returns: A Perspective on Conditional Asset Pricing

Wayne E. Ferson and Campbell R. Harvey

NBER Working Paper No. 5860
December 1996
JEL Nos. F3, G0, G1
Asset Pricing

This paper provides a global-asset-pricing perspective on the debate over the relationship of predetermined attributes of common stocks — such as ratios of price-to-book-value, cash-flow, earnings, and other variables — to the future returns. Some argue that such variables may be used to find securities that are undervalued systematically by the market, while others argue that the measures are proxies for exposure to underlying economic risk factors. It is not possible to distinguish between these views without explicitly modeling the relationship between such attributes and risk factors. We present an empirical framework for attacking the problem at a global level, assuming integrated markets. Our perspective pulls together the traditional academic and practitioner viewpoints on lagged attributes. We present new evidence on the relative importance of risk and mispricing effects, using monthly data for 21 national equity markets. We find that the cross-sectional explanatory power of the lagged attributes is related to both risk and mispricing in the two-factor model, but that the risk effects explain more of the variance than mispricing.

An International Comparison of Employment Adjustment to Exchange Rate Fluctuations

Simon Burgess and Michael M. Knetter

NBER Working Paper No. 5861
December 1996
JEL Nos. E24, F14, J21
International Finance and Macroeconomics and International Trade and Investment

This paper evaluates the response of employment to exchange rate shocks at the industry level for the G-7 countries. Using a simple empirical framework that places little *a priori* structure on the pattern of response to shocks, we find that the data are consistent with the view that employment in European industries, at least in France and Germany, is much less influenced by exchange rate shocks and much slower to adjust to long-run steady states. The United States, Japan, Canada, the United Kingdom, and Italy all appear to adjust more quickly. German and Japanese employment are quite insensitive to exchange rate fluctuations; this is consistent with previous research on output and markup responses to exchange rates.

Goods Prices and Exchange Rates: What Have We Learned?

Pinelopi K. Goldberg and Michael M. Knetter

NBER Working Paper No. 5862
December 1996
JEL Nos. F1, F3, L1
International Finance and Macroeconomics and International Trade and Investment

Import prices typically change by a smaller proportion than the exchange rate between the exporting and importing country. Recent research indicates that common-currency relative prices for similar goods exported to different markets are highly correlated with exchange rates between those markets. This evidence suggests that incomplete pass-through is a consequence of third-degree price discrimination. While distance matters for market segmentation, borders have independent effects. The source of the border effect has not been identified clearly. Furthermore, there is little evidence yet suggesting that substantial market power is implied by the observed price discrimination.

Do Borders Matter for Social Capital? Economic Growth and Civic Culture in U.S. States and Canadian Provinces

John F. Helliwell

NBER Working Paper No. 5863
December 1996
JEL Nos. F15, O15, P52

This paper first assesses differences among regional and ethnic groups in social trust and memberships, both in Canada and the United States. The ethnic categories that people choose to describe themselves are as important as regional differences, but much less important than education, in explaining differences in trust. Respondents who qualify their nationality by any of seven adjectives (black, white, Hispanic, and Asian in the United States; French, English, and Ethnic in Canada), a feature more prevalent in the United States than in Canada, have lower levels of trust than those who consider themselves Canadians or Americans either first or only.

The dispersion of incomes across states or provinces has been dropping in both countries, but faster in Canada than in the United States. The 1980s increase in regional income disparity in the United States has no parallel in Canada. In neither country

is there evidence that per capita economic growth is faster in regions marked by high levels of trust. However, U.S. migrants tend to move to states with higher perceived levels of trust, thus contributing to higher total growth in those states. The economic responsiveness of migration appears to be even stronger in Canada than in the United States, despite the much more extensive systems of fiscal equalization and social safety nets in Canada.

Trust in Large Organizations

Rafael La Porta, Florencio Lopez-de-Silanes, Andrei Shleifer, and Robert W. Vishny

NBER Working Paper No. 5864
December 1996
JEL No. 123
Corporate Finance

Several authors suggest that trust is an important determinant of cooperation among strangers in a society, and therefore of the performance of social institutions. We argue that trust should be particularly important for the performance of large organizations. In a cross-section of countries, evidence on government performance, participation in civic and professional societies, importance of large firms, and the performance of social institutions supports this hypothesis more generally. Moreover, trust is lower in countries with dominant hierarchical religions, which may have deterred "horizontal networks of cooperation" among people. In sum, theories of trust hold up remarkably well on a cross-section of countries.

Appropriate Technology and Growth

Susanto Basu and David N. Weil

NBER Working Paper No. 5865
December 1996
JEL Nos. 030, 040
Economic Fluctuations and Growth

We present a model of growth and technology transfer based on the idea that technologies are specific to particular combinations of inputs. We argue that this model is more realistic than the usual specification, in which an improvement in any technique for producing a given good improves all other techniques for producing that good. Our model implies that technology improvements will diffuse only slowly, even if there are no barriers to the flow of knowledge and no adoption costs. On the other hand, although our basic production technology is of the "Ak" variety, technology diffusion implies that countries with identical policies and different initial incomes eventually do converge to the same level of per-capita income. We argue that a model with appropriate technology and technology diffusion is more appealing, and has more realistic predictions for long-run convergence and growth, than either the standard neoclassical model or simple endogenous-growth models.

Disability Insurance Benefits and Labor Supply

Jonathan Gruber

NBER Working Paper No. 5866
December 1996
JEL No. J26
Health Care, Labor Studies, and Public Economics

Disability Insurance (DI) is a public program that provides income support to persons unable to continue work because of disability. The difficulty of defining disability, however, has raised the possibility that this program may subsidize the early retirement of workers who are not truly disabled. A critical input for assessing the optimal size of the DI program therefore is the elasticity of labor force participation with respect to the generosity of benefits. Unfortunately, this parameter has been difficult to estimate in the context of the U.S. DI program, since all workers face an identical benefits schedule. I surmount this problem by studying the experience of Canada, which operates two distinct DI programs, for Quebec and the rest of Canada. The latter program raised its benefits by 36 percent in January 1987, while benefits were constant in Quebec, providing exogenous variation in the generosity of benefits across similar workers. I study this increase in relative benefits using both simple "difference-in-difference" estimators and more parameterized estimators that exploit the differential impact of this policy change across workers. I find that there was a sizeable labor supply response to the policy change; my central estimates imply an elasticity of labor force non-participation with respect to DI benefits of 0.25 to 0.32. Despite this large labor supply response, simulations suggest that there were welfare gains from this policy change under plausible assumptions about preference parameters.

Racism, Xenophobia or Markets? The Political Economy of Immigration Policy Prior to the Thirties

Ashley S. Timmer and Jeffrey G. Williamson

NBER Working Paper No. 5867
December 1996
JEL Nos. F22, F13, N3, P16
Labor Studies and Development of the American Economy

Contrary to conventional wisdom, the doors did not suddenly slam shut on American immigrants when Congress passed the Emergency Quota Act of May 1921. Rather, the United States had started imposing restrictions a half century earlier. Argentina, Australia, Brazil, and Canada enacted similar measures, although the anti-immigration policy drift often took the form of an enormous drop in (or even the disappearance of) large immigrant subsidies.

Also contrary to conventional wisdom, there wasn't simply one big regime switch around World War I. What then explains immigration policy between 1860 and 1930? We identify the fundamentals that underlay the formation of immigration policy, distinguishing between the impact of these long-run fundamentals and short-run timing, and clarifying the difference between market and nonmarket forces. The key bottom line is this: over the long haul, immigrant countries tried to maintain the *relative* economic position of unskilled labor, compared with skilled labor, landowners, and industrialists.

How Big Should Government Be?

Martin Feldstein

NBER Working Paper No. 5868
December 1996
JEL No. H2
Public Economics

The appropriate size and role of government depends on the deadweight burden caused by incremental transfers of funds from the private sector. The magnitude of that burden depends on the increases in tax rates required to raise incremental revenue and on the deadweight loss that results from higher tax rates. Both components depend on the full range of behavioral responses of taxpayers to increases in tax rates. The first part of this paper explains why the official method of revenue estimation used by the Treasury and the Congress underestimates the tax rate increases required to raise additional revenue. This is closely related to the on-going debate about the use of "dynamic" revenue estimation. The second part of the paper emphasizes that the deadweight burden caused by a tax rate increase depends not just on the response of labor force participation and average working hours but also on other dimensions of labor supply, on the forms in which compensation is paid, on the individuals' spending on tax favored (deductible or excludable) forms of consumption, and on the intertemporal allocation of consumption. Recent econometric work implies that the deadweight burden caused by incremental taxation (the marginal excess burden) may exceed one dollar per dollar of revenue raised, making the cost of incremental government spending more than two dollars for each dollar of government spending.

Does Regulation Improve Outputs and Increase Prices?: The Case of Dentistry

Morris M. Kleiner and Robert T. Kudrle

NBER Working Paper No. 5869
January 1997
JEL No. J51
Labor Studies

We examine the role of occupational licensing policies and practices in improving the services provided to consumers. We also consider the effect of restrictive regulations on the prices of certain services. The theory suggests that more restrictive licensing may raise prices, but also that it may raise demand by reducing uncertainty about the quality of the services. This paper uses unique data on the dental health of incoming Air Force personnel to empirically analyze the effects of variations in licensing stringency among the states. We find that tougher licensing does not lead to improved outputs (in this case, dental health), but does raise prices. Our results cast doubt on the main public interest argument in favor of the more strenuous licensing practices that exist in the more restrictive states.

Learning, Complementarities, and Asynchronous Use of Technology

Boyan Jovanovic and Dmitriy Stolyarov

NBER Working Paper No. 5870
January 1997
JEL No. L23
Productivity

This paper deals with processes that require several complementary inputs, all of which may be subject to improvements in quality. If, after a quality upgrade, one of these inputs requires a period of learning before it can be used effectively, then in general it will pay to purchase the inputs at different dates: that is, the purchases will be asynchronous. That is because it is wasteful to tie up funds in the other inputs which will be underutilized until the learning is completed.

We show that technology has been used asynchronously in the automobile and television broadcasting industries, in the supply of electricity, and in railways. We argue that our model helps to explain this evidence.

Solow vs. Solow: Machine Prices and Development

Boyan Jovanovic and Rafael Rob

NBER Working Paper No. 5871
January 1997
JEL No. O31
Productivity

Machines are more expensive in poor countries; this relationship is pronounced. It is hard for a 1956 Solow-type of model to explain the relationship between machine prices and GDP, given that in most countries investment in equipment is less than 10 percent of GDP. A stronger relationship emerges in a 1959 Solow-type of vintage model, in which technology is embodied in machines.

The Generalized War of Attrition

Jeremy Bulow and Paul Klemperer

NBER Working Paper No. 5872
January 1997
JEL Nos. D43, D44, L13, O30
Public Economics

We generalize the "War of Attrition model" to allow for $(N + K)$ firms competing for N prizes. There are two particularly interesting special cases. First, if firms continue to pay their full costs after dropping out (as in a standard-setting context), each firm's exit time is independent of both K and the actions of other players. Second, in the limiting case in which firms pay no costs after dropping out (as in a natural-oligopoly problem), the field is reduced immediately to $(N + 1)$ firms. Furthermore, there is perfect sorting, so it is always the $(K - 1)$ lowest-value players who drop out in "zero time," even though each player's value is private information to the player. We apply our model to politics, explaining the length of time that it takes to collect a winning coalition to pass a bill.

Auction Theory: A Summary with Applications to Treasury Markets

Sanjiv Ranjan Das and Rangarajan K. Sundaram

NBER Working Paper No. 5873
January 1997
JEL Nos. C72, G14
Asset Pricing

This review paper describes basic auction concepts and provides a summary of the theory in this area, particularly as it relates to Treasury auctions.

Does the Nominal Exchange Rate Regime Matter?

Atish R. Ghosh, Anne-Marie Gulde, Jonathan D. Ostry, and Holger C. Wolf

NBER Working Paper No. 5874
January 1997
JEL Nos. F33, F41, F43
International Finance and Macroeconomics

The relevance of the exchange rate regime for macroeconomic performance remains a key question in international macroeconomics. We use a comprehensive dataset covering nine types of regime for 140 countries over 30 years to study the link between the regime, inflation, and growth. Two stylized facts emerge: First, inflation is both lower and more stable under pegged regimes, reflecting slower growth in the money supply and faster growth in money demand. Second, real volatility is higher under pegged regimes. In contrast, growth varies only slightly across regimes, although investment is somewhat higher and trade growth somewhat lower under pegged regimes. Thus pegged regimes are characterized by lower inflation but more pronounced output volatility.

An Optimizing IS-LM Specification for Monetary Policy and Business Cycle Analysis

Bennett T. McCallum and Edward Nelson

NBER Working Paper No. 5875
January 1997
JEL Nos. E10, E30, E40
Economic Fluctuations and Growth and Monetary Economics

This paper asks whether IS-LM type relationships can be used for the aggregate demand portion of a dynamic optimizing general equilibrium model intended for analyzing issues of monetary policy and cyclical fluctuations. We conclude that only one change — the addition of a term regarding expected future income — is needed to make the IS function match a fully optimizing model; no changes are needed for the LM function. This single modification imparts a dynamic, forward-looking aspect to saving behavior and leads to a model of aggregate demand that is both tractable and usable with a wide variety of specifications for aggregate supply.

Monetary Shocks and Real Exchange Rates in Sticky Price Models of International Business Cycles

V. V. Chari, Patrick J. Kehoe, and Ellen R. McGrattan

NBER Working Paper No. 5876
January 1997
JEL Nos. F41, F31, F32
Economic Fluctuations and Growth and International Finance and Macroeconomics

The data show large and persistent deviations of real exchange rates from purchasing power parity. Recent work has shown that these movements are driven to a large extent by deviations from the law of one price for traded goods. In the data, real and nominal exchange rates are about six times as volatile as relative price levels; both are highly persistent, with serial correlations of 0.85 and 0.83, respectively. This paper develops a sticky price model with price discriminating monopolists, which produces deviations from the law of one price for traded goods. Our benchmark model, which has prices set for one quarter at a time and a unit consumption elasticity of money demand, does not come close to reproducing these observations. A model which has producers setting prices for six quarters at a time and a consumption elasticity of money

demand of 0.27 does much better. In it, real and nominal exchange rates are about three times as volatile as relative price levels. Exchange rates are persistent, with serial correlations of 0.65 and 0.66, respectively.

New Techniques to Extract Market Expectations from Financial Instruments

Paul Söderlind and Lars E. O. Svensson

NBER Working Paper No. 5877
January 1997
JEL Nos. E43, E52, G13
Asset Pricing and International Finance and Macroeconomics

This paper is a selective survey of new or recent methods for extracting information about market expectations from asset prices for the purposes of monetary policy. Traditionally, interest rates and forward exchange rates have been used to extract expected means of future interest rates, exchange rates, and inflation. More recently, these methods have been refined to rely on implied forward interest rates, so as to extract expected future time-paths. Very recently, methods have been designed to extract not only the means but also the entire (risk neutral) probability distribution from a set of option prices.

The Segmentation of International Markets: Evidence from *The Economist*

Michael M. Knetter

NBER Working Paper No. 5878
January 1997
JEL Nos. F1, F3, L1
International Trade and Investment

I study the behavior of newsstand prices for *The Economist* magazine in eight markets. Substantial variations in markups across markets are related to exchange rate fluctuations. Some of this variation can be traced to menu costs. However, much of the variation appears to result from intentional price discrimination across three regions: the United States, the United Kingdom, and Continental Europe and Scandinavia. Differences in demand elasticities plausibly can be attributed to differences in preferences and the set of competing products across markets. Segmentation of the markets is facilitated by the time-sensitive nature of the product which makes arbitrage very costly.

Legal Determinants of External Finance

Rafael La Porta, Florencio Lopez-de-Silanes, Andrei Shleifer, and Robert W. Vishny

NBER Working Paper No. 5879
January 1997
Corporate Finance

Using a sample of 49 countries, we show that countries with poorer investor protections, measured by both the character of legal rules and the quality of law enforcement, have smaller and narrower capital markets. These findings apply to both equity and debt markets. In particular, French civil law countries have both the weakest investor protections and the least developed capital markets, especially as compared to common law countries.

Manufacturing Plant Location: Does State Pollution Regulation Matter?

Wayne B. Gray

NBER Working Paper No. 5880
January 1997
JEL Nos. H73, Q28
Productivity, Public Economics

This paper tests whether differences across states in pollution regulation affect the location of manufacturing activity in the United States. I use plant-level data from the Census Bureau's Longitudinal Research Database to identify births of new plants in each state from 1963–87. This data is combined with several measures of state regulatory intensity, including business spending on pollution abatement, regulatory enforcement activity, congressional pro-environment voting, and an index of state environmental laws. I find a significant connection: states with more stringent environmental regulation have fewer new manufacturing plants. These results persist across a variety of specifications, and the strongest regulatory coefficients are similar in magnitude to those on other factors expected to influence location, such as rates of unionization. However, a subsample of high-pollution industries, which might have been expected to show much larger impacts, gets similar coefficients. This raises the possibility that differences among states other than in environmental regulation might be influencing the results.

The Rise and Decline of the American Ghetto

David M. Cutler, Edward L. Glaeser, and Jacob L. Vigdor

NBER Working Paper No. 5881
January 1997
Labor Studies, Public Economics

This paper examines segregation in U.S. cities from 1890 to 1990. We divide the century into three time periods. From 1890 to 1940, ghettos sprung up as blacks migrated to urban areas and cities developed vast expanses filled with housing that was nearly exclusively black. From 1940 to 1970, black migration continued and the ghettos expanded. Since 1970, there has been a decline in segregation, as blacks have moved to suburban areas and central cities have become less segregated. Across all of these time periods, there is a strong positive relation between urban population or density and seg-

regation. We go on to examine why segregation has varied so much over time. We find that the mechanism sustaining segregation has changed. In the mid-20th century, segregation was a product of collective actions taken by whites to exclude blacks from their neighborhoods. By 1990, these legal barriers enforcing segregation had been replaced by decentralized racism, by which whites pay more than blacks in order to live in predominantly white areas.

A Portfolio Approach to a Cross-Sectoral and Cross-National Investment Strategy in Transition Economies

Willem H. Buiter, Ricardo Lago, and Hélène Rey

NBER Working Paper No. 5882
January 1997
JEL Nos. P27, G11, G24, G32, F41, F21, E44, D20
International Finance and Macroeconomics and Monetary Economics

This paper takes a systematic look at the portfolio choice problem faced by investment banks or funds investing in transition economies. We relate the performance of projects in the transition economies to the broader macroeconomic and international environment, which affects the project through its input-output structure and its financial balance sheet. Among the macroeconomic determinants of enterprise behavior we consider are: productivity growth; real wage growth; movements in the international terms of trade; shocks to the relative price of traded and nontraded goods; domestic and foreign interest rates; currency depreciation; and the rate of inflation. We evaluate the attractiveness of alternative investment strategies and provisioning rules from the perspective of portfolio theory.

Implications of the Great Depression for the Development of the International Monetary System

Michael D. Bordo and Barry Eichengreen

NBER Working Paper No. 5883
January 1997
JEL Nos. F02, F33, E42, N10
Development of the American Economy, International Finance and Macroeconomics, and Monetary Economics

In this paper we speculate about the evolution of the international monetary system in the last two-thirds of the twentieth century absent the Great Depression but with the major post-Depression political and economic upheavals: World War II and the Cold War. We argue that without the Depression the gold-exchange standard of the 1920s would have persisted until the outbreak of World War II. It would have been suspended during the war and for a period of postwar reconstruction before being restored in the first half of the 1950s. The Bretton Woods Conference would not have taken place, nor would a Bretton Woods System of pegged-but-adjustable exchange rates and restrictions on capital-account convertibility have been established. Instead, an unreformed gold-exchange standard of pegged exchange rates and unlimited international capital mobility would have been restored after World War II. But this gold-exchange standard would have collapsed even earlier than was actually the case with Bretton Woods. The move toward floating exchange rates that followed would have taken place well before 1971 in our counterfactual.

We construct a model of the international monetary system from 1928 to 1971 and simulate its implications for the determination of the world price level and the durability of the hypothetical gold-exchange standard. We then examine, based on regressions for a 61-country panel, the implications for economic growth and resource allocation of allowing 1920s-style international capital mobility after World War II. Based on the implications of our model simulations and the capital controls regression, we contemplate the implications for institution building and international cooperation of the "no Great Depression" scenario.

Cost of Capital for the United States, Japan, and Canada: An Attempt at Measurement Based on Individual Company Records and Aggregate National Accounts Data

Albert Ando, John Hancock, and Gary Sawchuk

NBER Working Paper No. 5884
January 1997
Corporate Finance and Economic Fluctuations and Growth

We lay out a conceptual basis for measuring the cost of capital for corporations from data typically available in such countries as the United States, Canada, and Japan. We attempt to carry out the measurement based both on the accounting records of individual companies and on the aggregate National Accounts data, supplemented by market information on the price of equity shares. We find a consistent pattern for the United States from both sets of data; the real cost of capital after depreciation and before taxes fluctuates around 10 to 11 percent without a persistent trend. For Canada, the individual company data cover too few companies for too short a period to produce reliable estimates. The aggregate National Accounts data for Canada supplemented by some unpublished data supplied by Statistics Canada suggest that the cost of capital in Canada is equal to or somewhat lower than that in the United States.

For Japan, the individual company accounts and National Accounts data yield apparently inconsistent results. We attempt to identify the sources of the inconsistency, although the full clarification of this problem must await the publication by the Economic Planning Agency of a detailed and full explanation of the derivation of its national accounts estimates. Finally, we suggest that the extraordinarily high prices of land and the persistent real capital gains that companies enjoyed on their land until 1990 were an important cause leading to an underestimation of the cost of capital when the standard procedure is applied to Japanese data, and these effects appear to persist.

Distributional Effects of Adopting a National Retail Sales Tax

Daniel R. Feenberg, Andrew W. Mitrusi, and James M. Poterba

NBER Working Paper No. 5885
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JEL Nos. H22, H23, H24
Public Economics

This paper describes a new household-level data file based on merged information from the IRS Individual Tax File, the Current Population Survey, the National Medical Expenditure Survey, and the Consumer Expenditure Survey. This new file includes descriptive data on household income and consumption. The data file can be linked to the NBER TAXSIM program and used to evaluate the distributional effects of changing the federal income tax code, as well as the distributional effects of replacing the individual income tax with a consumption tax. We use this data file to analyze the long-run distributional effects of adopting a national retail sales tax that raises enough revenue to replace the current federal individual and corporation income taxes, as well as federal estate and gift taxes. Our results highlight the sensitivity of the change in distributional burdens to provisions such as lump sum transfers, sometimes called "demogrants," in the retail sales tax plan, and to the choice between income and consumption as a basis for categorizing households in distribution tables.

Business Groups and Trade in East Asia: Part 1, Networked Equilibria

Robert C. Feenstra, Deng-Shing Huang, and Gary G. Hamilton

NBER Working Paper No. 5886
January 1997
JEL Nos. F14, D23
International Trade and Investment

We propose an economic model of business groups that allows for the cooperative behavior of groups of firms, and the number and size of each group to be determined endogenously. In this framework, more than one configuration of groups can arise in equilibrium: several different types of business groups can occur, each of which is consistent with profit maximization and is stable. This means that the economic logic does not fully determine the industrial structure, leaving room for political and sociological factors to have a lasting influence. In a companion paper, we argue that the differing structures of business groups found in South Korea, Taiwan, and Japan fit the stylized results from the model. We contrast the impact of these groups on the product variety of their exports to the United States.

Business Groups and Trade in East Asia: Part 2, Product Variety

Robert C. Feenstra, Maria Yang, and Gary G. Hamilton

NBER Working Paper No. 5887
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JEL Nos. F14, D23
International Trade and Investment

We analyze the impact of market structure on the trade performance of South Korea, Taiwan, and Japan. Korea has many large, vertically-integrated business groups, known as *chaebol*, whereas business groups in Taiwan are smaller and more specialized in the production of intermediate inputs. We test the hypothesis that the greater vertical integration in Korea results in less product variety than for Taiwan by constructing indexes of product variety and "product mix" in exports to the United States. We find that Taiwan tends to export a greater variety of products to the United States than Korea does, and this holds across all industries. In addition, Taiwan exports relatively more high-priced intermediate inputs, whereas Korea exports relatively more high-priced final goods. We also present a comparison with Japan and find that Japan has greater product variety in its sales to the United States than either Taiwan or Korea.

Using Maimonides's Rule to Estimate the Effect of Class Size on Scholastic Achievement

Joshua D. Angrist and Victor Lavy

NBER Working Paper No. 5888
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JEL Nos. I21, J24
Labor Studies

The effect of class size on student achievement has long been of concern to educators, parents, and scholars. In Israeli public schools today,

class size is determined partly using a rule proposed by Maimonides in the 12th century. This rule induces a nonlinear and nonmonotonic relationship between enrollment size and class size. We use this relationship to construct estimates of the effect of class size on the test scores of Israeli fourth and fifth graders in 1991 and third graders in 1992. Because the up-and-down pattern in class size induced by Maimonides's rule matches a similar pattern in test scores, the rule provides a credible source of exogenous variation for investigation of the causal effect of class size on student achievement.

Our use of Maimonides's rule can be viewed as an application to the class size question of Campbell's (1969) regression-discontinuity design. Our results show that reductions in class size induce a significant and substantial increase in reading and math scores for fifth graders and a smaller increase in reading scores for fourth graders. In contrast, there is little evidence of any association between class size and the test scores of third graders, although this finding may result from problems with the 1992 wave of the testing program. Our estimates also suggest that the gains from small classes are largest for students from disadvantaged backgrounds. Besides being of methodological interest and providing new evidence on the class size question, these findings are of immediate policy interest in Israel where legislation to reduce the maximum class size is pending.

A Distinctive System: Origins and Impact of U.S. Unemployment Compensation

Katherine Baicker, Claudia Goldin, and Lawrence F. Katz

NBER Working Paper No. 5889
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JEL Nos. J0, N0, H7
Development of the American Economy and Labor Studies

Unemployment compensation in the United States was signed into law in August 1935 as part of the omnibus Social Security Act. Drafted in a period of uncertainty and economic distress, the portions that dealt with unemployment insurance (UI) were crafted to achieve a multiplicity of goals, among them passage of the Act and a guarantee of its constitutionality. The U.S. unemployment compensation system is distinctive among countries by virtue of its federal-state structure, experience-rating, and limitation on benefits. We contend that these features were products of the times, reflecting expediency more than efficiency, and thus that UI would have been different had it been passed in another decade. But how different is the UI system in the United States because of these features, and how have they affected the U.S. labor market? We show that more seasonality in manufacturing employment in 1909–29 is related to higher UI benefits from 1947 to 1969, if a state's share of manufacturing employment is below the national mean. Lobbying activities of seasonal industries appear important in the evolution of the parameters. We also present suggestive evidence on the relationship between declining seasonality and experience-rating.

Towards a Political-Economic Theory of Domestic Debt

Allan Drazen

NBER Working Paper No. 5890
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JEL Nos. F34, H63
International Finance and Macroeconomics

I present a political-economic model of the *composition* of government debt; that is, whether it is issued to domestic or foreign holders. One key determinant will be the political constraints on repudiation of foreign and domestic debt, which will determine the nature of the domestic political equilibrium. Economic and political factors determine the effective cost of borrowing at home or abroad, and with the ability to segment markets, the government acts like a discriminating monopsonist in placing its debt. A country that expects to face a low effective foreign interest rate, reflecting the expectation that it won't be forced to repay its foreign debts in full, will be characterized by high government spending, a high government budget deficit, low domestic saving, and a high trade balance deficit, so that the domestic economy will look mismanaged in terms of a number of macroeconomic indicators. Very lenient foreign assistance programs would have the same effect.

Accounting for the Slowdown in Employer Health Care Costs

Alan B. Krueger and Helen Levy

NBER Working Paper No. 5891
January 1997
JEL Nos. J32, I10
Health Care and Labor Studies

The most widely used measure of employer health care costs, the health insurance component of the Employment Cost Index, indicates

that cost growth has decelerated since 1989. In recent years, employer expenditures per hour worked even have declined in nominal dollars. This paper analyzes the components of changes in employers' health care costs over 1992–4 and 1987–93. We find that employer costs have decreased primarily as a result of a steady decrease in the fraction of workers with coverage and a large decrease in the rate of growth of insurance premiums. We conclude that the shift to managed care is not directly responsible for significant cost savings, because managed care premiums are almost as high on average as premiums for fee-for-service plans. Finally, we note that there is a significant need for improved data collection in this area.

Policy Signaling in the Open Economy: A Re-examination

Allan Drazen

NBER Working Paper No. 5892
January 1997
JEL Nos. F41, E60
Economic Fluctuations and Growth and International Finance and Macroeconomics

The standard model of signaling used in open economy macroeconomics concentrates on building a reputation when a policymaker's "type" is unknown. Observing tough policy leads market participants to raise the probability that a policymaker is tough, and therefore to expect tough policy in the future. This approach does not explain a number of commonly observed occurrences; for example, toughness in defending an exchange rate, leading to increased speculation against the currency. To explain many phenomena, this paper argues, more sophisticated signaling models are needed, models which include signaling of resources rather than preferences, policy affecting the environment in which signals are sent, and exogenous changes in the environment affecting the informativeness of signals. I explore these models and show that they can explain a number of phenomena that the standard reputational model cannot.

Inflation Targeting: A New Framework for Monetary Policy?

Ben S. Bernanke and Frederic S. Mishkin

NBER Working Paper No. 5893
January 1997
JEL No. E5
Economic Fluctuations and Growth and Monetary Economics

In recent years a number of industrialized countries have adopted a strategy for monetary policy known as "inflation targeting." We describe how this approach has been implemented in practice and argue that it is best understood as a broad framework for policy, which allows the central bank "constrained discretion," rather than as an ironclad policy rule in the Friedman sense. We discuss the potential of the inflation-targeting approach for making monetary policy more coherent and transparent, and for increasing monetary policy discipline. Our final section addresses some additional practical issues raised by this approach.

Post-'87 Crash Fears in S&P 500 Futures Options

David S. Bates

NBER Working Paper No. 5894
January 1997
Asset Pricing

This paper shows that post-crash implicit distributions have been strongly negatively skewed. I examine two competing explanations: stochastic volatility models with negative correlations between market levels and volatilities; and negative-mean jump models with time-varying jump frequencies. The two models are nested using a Fourier inversion European option pricing methodology, and fitted to S&P 500 futures options data over 1988–93 using a nonlinear generalized least squares/Kalman filtration methodology. While volatility and level shocks are substantially negatively correlated, the stochastic volatility model can explain the implicit negative skewness only under extreme parameters (for example, high volatility of volatility) that are implausible given the time series properties of option prices. By contrast, the stochastic volatility/jump-diffusion model generates substantially more plausible parameter estimates. I also present evidence against the hypothesis that volatility follows a diffusion.

From Smoot-Hawley to Reciprocal Trade Agreements: Changing the Course of U.S. Trade Policy in the 1930s

Douglas A. Irwin

NBER Working Paper No. 5895
January 1997
JEL Nos. F13, N72
Development of the American Economy and International Trade and Investment

Four years after passing the infamous Smoot-Hawley tariff in 1930, Congress enacted the Reciprocal Trade Agreements Act (RTAA), which gave the President the authority to undertake tariff-reduction agreements (without Congressional approval) with foreign countries. The resulting trade agreements reduced U.S. tariffs and culminated in the General Agreement on Tariffs and Trade in 1947. Was the Great Depression responsible for bringing about this fundamental shift in U.S. trade policy? This paper analyzes the changes in U.S. trade policy during this period and argues that: (1) the Depression as an *international* phenomenon

motivated the unprecedented Congressional delegation of tariff-making powers; and (2) economic changes that were more the result of World War II than the Depression blunted Republican opposition to the RTAA and ensured its post-war survival.

Trade Policy and Economic Development: How We Learn

Anne O. Krueger

NBER Working Paper No. 5896
January 1997
International Finance and Macroeconomics and International Trade and Investment

Ideas about trade policy and economic development have changed radically since the 1950s. Then and now, it was recognized that trade policy was central to the overall design of policies for economic development. But in the early days, there was a broad consensus that trade policy for development should be based on "import substitution." This meant that domestic production of import-competing goods should be undertaken, and increased to satisfy the domestic market, with the necessary incentives provided through the level of protection against imports, or even their prohibition. It was thought that import substitution in manufactures would be synonymous with industrialization, which in turn was seen as the key to development.

The contrast with views today is striking. It is now widely accepted that growth prospects for developing countries are enhanced greatly through an outer-oriented trade regime and fairly uniform incentives (primarily through the exchange rate) for production across exporting and import competing goods.

This paper addresses the changes in thought and policy. How could it happen that a profession, with the principle of comparative advantage as one of its key tenets, embraced such protectionist policies? What was the contribution of economic research to the sea change in thinking, policy prescriptions, and politicians' acceptance of the need for policy reform? What sorts of economic research best informed the policy process? In a nutshell, how did we learn?

I first sketch the initial approach to trade policy in early research and thought on development. Then I consider the evolution of thought, research, and experience with respect to trade and development over the next several decades, up to the "conventional wisdom" of the 1990s. Finally, I examine the role of research and the type of research that proved most fruitful in guiding policy and changing the consensus.

Per Capita Income Convergence and the Role of International Trade

Matthew J. Slaughter

NBER Working Paper No. 5897
January 1997
JEL Nos. F1, O4
International Trade and Investment

The recent literature on cross-country convergence of per capita income largely has ignored international trade. The reason might be perspective. Most papers about convergence frame the analysis in a "Solow world" in which countries exist independent of one another. But most international trade economists have a very different perspective of a world in which countries exchange goods, factors, and ideas. This paper sketches out some basic relationships between the convergence of per capita income and international trade. First, I briefly summarize a few interesting recent papers that have linked income convergence to trade. Their common inference is that for countries that are somehow linked by trade *and* converging, trade helps to cause the convergence. Second, I critique these papers in light of some simple accounting and trade theory. The key point here is that the fact of countries trading is not sufficient proof that trade helps to cause per capita income convergence. Finally, I give two examples that apply some of these ideas to real-world data. The basic point of this paper is that more work is needed to document carefully both the exact mechanisms by which trade helps convergence and the relative contribution of trade and non-trade factors.

A Simple Model of Trade, Capital Mobility, and the Environment

Brian R. Copeland and M. Scott Taylor

NBER Working Paper No. 5898
January 1997
International Trade and Investment

This paper examines the interaction between relative factor abundance and income-induced policy differences in determining the pattern of trade and the effect of trade liberalization on pollution. If a rich and capital abundant North trades with a poor and labor abundant South, then free trade lowers world pollution. Trade shifts the production of pollution-intensive industries to the capital abundant North despite its stricter pollution regulations. Pollution levels rise in the North and fall in the South. These results can be reversed, however, if the North-South income gap is "too large"; in that case, the pattern of trade is driven by income-induced pollution policy differences across countries. Capital mobility may raise or lower world pollution depending on the pattern of trade.

Order from Chaos? The Effects of Early Labor Market Experiences on Adult Labor Market Outcomes

Rosella Gardecki and David Neumark

NBER Working Paper No. 5899
January 1997
JEL Nos. J24, J31, J6
Labor Studies

This paper examines the consequences of initial periods of "churning," "floundering about," or "mobility" in the labor market to help assess whether faster transitions to stable employment relationships — such as those envisioned by advocates of school-to-work programs — would be likely to lead to better adult outcomes in the labor market. Our interpretation of the results is that there is at best modest evidence linking early job market stability to better outcomes in the labor market. We find that for both men and women, adult labor market outcomes (that is, what happens to workers in their late-20s or early-to-mid-30s) for the most part are unrelated to early labor market experiences. This does not provide a compelling case for efforts to explicitly target the school-to-work transition, in that it would mean changing the structure of youth labor markets so that workers become more firmly attached to employers, industries, or occupations at younger ages.

Financial Factors and Investment in Belgium, France, Germany, and the UK: A Comparison Using Company Panel Data

Stephen Bond, Julie Elston, Jacques Mairesse, and Benoît Mulkay

NBER Working Paper No. 5900
January 1997
JEL Nos. C23, D21, E22, G31
Productivity

We construct company panel datasets for manufacturing firms in Belgium, France, Germany, and the United Kingdom, covering 1978–89. We use these datasets to estimate a range of investment equations, and to investigate the role played by financial factors in each country. We find that cash flow or profits appear to be both statistically and quantitatively more significant in the United Kingdom than in the three continental European countries. This is consistent with the suggestion that financial constraints on investment may be relatively severe in the more market-oriented U.K. financial system.

A Century of Global Stock Markets

William N. Goetzmann and Philippe Jorion

NBER Working Paper No. 5901
January 1997
JEL Nos. F30, G11
Asset Pricing

The expected return on equity capital may be the most important driving factor in asset allocation decisions. Yet, the long-term estimates we typically use are derived only from U.S. data. There are reasons to suspect, however, that these estimates of return on capital are subject to survivorship, since the United States is arguably the most successful capitalist system in the world; most other countries have been plagued by political upheaval, war, and financial crises.

This paper provides estimates of return on capital from long-term histories for world equity markets. By putting together a variety of sources, we collected a database of capital appreciation indexes for 39 markets with histories going as far back as the 1920s.

Our results are striking. We find that the United States has by far the highest uninterrupted real rate of appreciation of all countries, at about 5 percent annually. For other countries, the median real appreciation rate is about 1.5 percent. The high return premium obtained for U.S. equities therefore appears to be the exception rather than the rule.

Our global database also allows us to reconstruct monthly real and dollar-valued capital appreciation indexes for global markets, providing further evidence of the benefits of international diversification.

The Influence of Income Tax Rules on Insurance Reserves

David F. Bradford and Kyle D. Logue

NBER Working Paper No. 5902
January 1997
JEL Nos. G22, G38, H25
Public Economics

Federal income tax rules, and especially changes in those rules, combine with circumstances in the financial market (for example, interest rates) to create incentives that affect property-casualty insurers' decisions about the level of loss reserves to report. These incentives have varied substantially since 1980. In particular, the transition effects of the Tax Reform Act of 1986 created unusually large incentives to overstate reserves in reporting years 1985–7. Because they are in a sense forecasts of quite variable quantities, reserves are inevitably subject to correction over time, which makes drawing inferences from the time-series evidence difficult. Furthermore, taxes are not the only sources of biasing incentives that may vary from time to time. Still, the picture in aggregate industry data presented in this paper is broadly consistent with the tax-motivated reserving hypothesis.

Orchestrating Impartiality: The Impact of "Blind" Auditions on Female Musicians

Claudia Goldin and Cecilia Rouse

NBER Working Paper No. 5903
January 1997
JEL Nos. J7, J2, J4
Labor Studies

Discrimination against women has been alleged in hiring practices for many occupations, but it is extremely difficult to demonstrate sex-biased hiring. A change in the way symphony orchestras recruit musicians provides an unusual way to test for sex-biased hiring. To overcome possible biases in hiring, most orchestras revised their audition policies in the 1970s and 1980s. A major change involved the use of "blind" auditions with a "screen" to conceal the identity of the candidate from the jury. Female musicians in the top five symphony orchestras in the United States were less than 5 percent of all players in 1970 but are 25 percent today. We ask whether women were more likely to be advanced and/or hired with the use of "blind" auditions. Using data from actual auditions, we find that the screen increases — by 50 percent — the probability that a woman will be advanced out of certain preliminary rounds. The screen also greatly enhances the likelihood that a female contestant will be the winner in the final round. Using data on orchestra personnel, we find that the switch to "blind" auditions can explain between 30 percent and 55 percent of the increase in the proportion that is female among new hires, and between 25 percent and 46 percent of the increase in the percentage that is female in the orchestras since 1970.

The Valuation of the Foreign Income of U.S. Multinational Firms: A Growth-Opportunities Perspective

Gordon M. Bodnar and Joseph Weintrop

NBER Working Paper No. 5904
January 1997
JEL Nos. F3, M4
International Finance and Macroeconomics

This paper demonstrates the "value-relevance" of foreign earnings for U.S. multinational firms. We examine the association between annual abnormal stock performance and changes in firms' domestic and foreign incomes as disclosed through SEC Regulation §210.4-08(h). For 2,570 firm-year observations between 1985 and 1993, changes in both foreign and domestic earnings are significantly positively associated with measures of annual excess returns; however, the coefficient for association on foreign income is significantly larger than the coefficient on domestic income. This indicates that disclosures of foreign earnings are value-relevant, and suggests that firm value is more sensitive to foreign earnings than to domestic earnings. We demonstrate that this larger foreign association coefficient is consistent with differences in growth opportunities between domestic and foreign operations. To further support the growth-opportunity interpretation of the results, we demonstrate that larger coefficients on foreign association are not caused by exchange rate changes or by methodological problems, such as differences in the timing of foreign versus domestic earnings recognition, or misspecification in the earnings expectation process.

Trade, Social Insurance, and the Limits to Globalization

Dani Rodrik

NBER Working Paper No. 5905
January 1997
JEL Nos. F10, F13
International Finance and Macroeconomics and International Trade and Investment

International economic integration increases exposure to external risk and intensifies domestic demands for social insurance through government programs. But international economic integration also reduces the ability of governments to respond to such pressure by rendering the tax base "footloose." With globalization proceeding apace, the social consensus required to maintain domestic markets open to trade may erode to the point where a return to protection becomes a serious possibility.

Re-emerging Markets

William N. Goetzmann and Philippe Jorion

NBER Working Paper No. 5906
January 1997
JEL Nos. F30, G11
Asset Pricing

Recent research shows that emerging markets are distinguished by high returns and low covariances with global market factors. These are striking results because of their immediate implications for the international investor. One key issue is whether these results may be attributed to recent emergence.

Most of today's emerging markets are actually *re-emerging markets,* that is, markets that attracted international attention earlier in the century, and for various political, economic, and institutional reasons experienced discontinuities in data sources.

To analyze the effects of conditioning on recent emergence, we simulate a simple, general model of global markets in which markets are priced according to their exposure to a world factor; returns are observed only if the price level exceeds a threshold at the end of the observation period. The simulations reveal a number of new effects. In particular, we find that the brevity of a market history is related to the bias in annual returns as well as to the world beta. These patterns are confirmed by long-term histories of global capital markets and by recent empirical evidence on emerging and submerged markets. Even though these results also can be explained by alternative theories, the common message is that basing investment decisions on the past performance of emerging markets is likely to lead to disappointing results.

Default and Renegotiation: A Dynamic Model of Debt

Oliver Hart and John Moore

NBER Working Paper No. 5907
January 1997
JEL Nos. D21, G32, G33
Corporate Finance

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

NBER Historical Papers

Immigrants and Natives: Comparative Economic Performance in the U.S., 1850–60 and 1965–80

Joseph P. Ferrie

NBER Historical Paper 93
September 1996
JEL Nos. J61, N30, F22
Development of the American Economy

Immigrants who arrived in the United States before the Civil War, unlike recent immigrants, were less likely to live in areas with high immigrant concentrations as their stay in the United States went on. The reduced isolation of these antebellum immigrants was not attributable to their own movement to places with fewer immigrants, but rather to the movement of the native-born into places (particularly cities) with large concentrations of immigrants. The isolation of contemporary immigrants even after several years in the United States thus results more from the reluctance of the native-born to relocate to places with many immigrants than from their own reluctance to move to places with fewer immigrants. Contemporary immigrants did have more success than antebellum immigrants in avoiding unskilled jobs as they entered the U.S. job market, although they moved out of unskilled jobs less often than the antebellum immigrants, according to comparisons of occupations at two points in time after arrival in the United States. Improvements in occupational mobility between antebellum and recent immigrants were most apparent among those not in unskilled jobs. This suggests the need to reevaluate some of the premises upon which concerns about the economic performance of recent immigrants are based.

The Efficiency Consequences of Institutional Change: Financial Market Regulation and Industrial Productivity Growth in Brazil, 1866–1934

Stephen Haber

NBER Historical Paper 94
November 1996
Development of the American Economy

This paper examines one of the central hypotheses of the New Institutional Economics: that the reform of institutions — in this case, the rules and regulations enforced by the State that both permit and bound the operation of markets — is crucial for the process of economic growth. I examine this hypothesis by estimating the productivity gain afforded to Brazilian textile firms by the reform of the regulations governing Brazil's securities markets in 1890. This analysis is based on panel data regressions on 18 firm-level censuses covering 1866–1934; this allows me to decompose total factor productivity growth. These censuses cover both limited liability joint stock corporations and privately owned firms. I also analyze corporate financial statements and stock market data for publicly held firms covering the period 1895–1940. I argue that the reform of the regulations pertaining to limited liability and mandatory disclosure permitted the widespread use of Brazil's debt and equity markets to mobilize capital for industry. This meant that the capital constraints faced by firms prior to the 1890s were relaxed. The result was an increased rate of investment, a decline in industrial concentration, and accelerated rates of growth of productivity.

The Political Economy of Workers' Compensation Benefit Levels, 1910–1930

Price V. Fishback and Shawn E. Kantor

NBER Historical Paper 95
November 1996
JEL Nos. J38, K31, N41, N42
Development of the American Economy

Although by 1910 workers, employers, and insurance companies all supported the adoption of workers' compensation, they fiercely debated the specific features of the legislation. We examine how levels of workers' compensation benefits were determined in the political process of forging compromises across interest groups, and even within individual groups. A quantitative analysis of the benefit levels in each state between the time of adoption and 1930 shows several important trends: Employers in dangerous industries effectively imposed limits on accident benefits, while organized labor and the commissions that administered the laws were instrumental in achieving higher expected levels of benefits. Political reformers who gained control of state legislatures in the early twentieth century aided organized labor in achieving its goal of improving workers' compensation accident benefits. We also present case studies of the political struggle over benefits that occurred in three states: Ohio, Minnesota, and Missouri. These qualitative descriptions of the fight over benefit levels provide a more detailed picture of the political process through which workers' compensation was created, because the cross-state quantitative study largely overlooks the political nuances that shaped workers' compensation legislation.

NBER Technical Papers

Hierarchical Bayes Models with Many Instrumental Variables

Gary Chamberlain and Guido W. Imbens

NBER Technical Working Paper 204
September 1996
Labor Studies

In this paper, we explore Bayesian inference in models with many instrumental variables that potentially are correlated only weakly with the endogenous regressor. The prior distribution has a hierarchical (nested) structure. We apply the methods to the Angrist-Krueger 1991 analysis of returns to schooling, using instrumental variables formed by interacting quarter of birth with state/year dummy variables. Bound, Jaeger, and Baker (1995) show that randomly generated instrumental variables, designed to match the AK dataset, yield two-stage least squares results similar to the results based on the actual instrumental variables. Using a hierarchical model with the AK data, we find a posterior distribution for the parameter of interest that is tight and plausible. Using data with randomly generated instruments, the posterior distribution is diffuse. Most of the information in the AK data in fact can be extracted with quarter of birth as the single instrumental variable. Using artificial data patterned on the AK data, we find that if all the information had been in the interactions between quarter of birth and state/year dummies, then the hierarchical model still would have led to precise inferences, whereas the single instrument model would have suggested that there was no information in the data. We conclude that hierarchical modeling is a conceptually straightforward way of efficiently combining many weak instrumental variables.

The NBER Manufacturing Productivity Database

Eric J. Bartelsman and Wayne Gray

NBER Technical Working Paper 205
October 1996
JEL No. D24
Productivity

This paper provides technical documentation to accompany the NBER manufacturing productivity (MP) database. The database contains information on 450 four-digit manufacturing industries for 1958 through 1991. The data are compiled from various official sources, most notably the Annual Survey of Manufactures and the Census of Manufactures. We also provide estimates of total factor productivity (TFP) growth for each industry. The paper further discusses alternate methods of deflation and aggregation and their impact on TFP calculations.

Further Investigation of the Uncertain Unit Root in GNP

Yin-Wong Cheung and Menzie D. Chinn

NBER Technical Working Paper No. 206
November 1996
JEL Nos. C15, C22
International Finance and Macroeconomics

We apply a more powerful version of the ADF test and a test that has trend stationarity as the null to U.S. GNP. We use simulated critical values generated from plausible trend and difference stationary models in order to minimize possible finite sample biases. We evaluate the discriminatory power of the two tests using alternative-specific rejection frequencies. For post-War quarterly data, these two tests do not provide a definite conclusion. However, when we analyze annual data over the period 1869–1986, the unit root null is rejected, while the trend stationary null is not.

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