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Program Report

Pensions and the Labor Market

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This issue of the *Reporter* highlights the Bureau's Project on Pensions and the Labor Market. Next, the three presentations made at NBER's 1983 Annual Research Conference are summarized. After the quarterly Economic Outlook Survey are biographical sketches, news of NBER conferences, the Conference Calendar, and other NBER news and reports. The *Reporter* concludes with short summaries of recent NBER Working Papers.

The NBER study of the labor market aspects of pension plans in the United States has been under way for approximately two years. This work parallels and is closely integrated with Bureau research on the financial aspects of pension plans. The Bureau's analysis of the labor aspects of pensions is intended to address several empirical and conceptual questions: (1) the structural characteristics of pension plans; (2) the determinants of individual pension coverage; (3) the types of plans selected by firms; (4) the incentive effects of pension plans; and (5) the reasons for the existence of pension plans and for certain of their particular characteristics.

Several researchers have addressed pension plan characteristics and pension coverage from different points of view. In "Pensions and the Labor Market: A Starting Point," David T. Ellwood provides a general overview of the subject. He relies heavily on the detailed factual material provided by Laurence J. Kotlikoff and Daniel Smith in their forthcoming NBER book, *Pensions in the American Economy*. Ellwood emphasizes that pensions are most common in unionized and large firms but because large pensions are related to large salaries, they do nothing to equalize incomes. He also stresses that defined-benefit plans reward work before the age of retirement and substantially penalize work after that time, and these plans imply a high penalty—lower pension wealth—for employees who switch from firm to firm in periods of inflation.

Kotlikoff and I, in "Labor Compensation and the Structure of Private Pension Plans: Evidence for Contractual versus Spot Labor Markets," analyze the structural characteristics of a very large number of pension plans using the Levels of Benefits Survey of the Bureau of Labor Statistics. We argue that accrual profiles of pension wealth typically exhibit very substantial discontinuities at the age of vesting and at the age of the early retirement option. The discontinuities at the age of vesting can be very large for workers who enter a firm relatively late in life. These profiles seem to be inconsistent with a spot market interpretation of labor compensation. We also find that under typical pension plans there is a substantial loss in pension wealth as a result of changing jobs. Our work was in part motivated by an earlier paper by Jeremy I. Bulow on "Early Retirement Benefits" (NBER Working Paper No. 654) and work by Edward P. Lazear on "Pensions as Severance Pay" (NBER Working Paper No. 944). While Lazear

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argues that there is a substantial loss in pension wealth if one continues to work past the age of early retirement, we do not find this result under typical pension plans. The different results are in part the result of different assumptions about interest and inflation rates and in part are caused by differences in the types of plans analyzed.

Richard B. Freeman, in "Unions, Pensions, and Union Pension Funds," concludes that unions greatly increase pension coverage. He further argues that the provisions of union plans benefit senior workers and equalize pensions among workers. He states that estimates of the age-earnings profile of union workers are seriously flawed by failure to take account of the union impact on pensions, which generally enhance the earnings of the oldest groups. Finally, he documents that union plans tend to shun the stocks of nonunion firms, although the effect of this decision on portfolio values is uncertain.

The variation of pensions across socioeconomic groups has been analyzed by Paul J. Taubman in "Determinants of Pension Benefits." One of his findings is that those who retire later tend to have lower pension wealth.

Michael D. Hurd and John B. Shoven use the Retirement History Survey to consider "The Distributional Aspect of Social Security" (NBER Working Paper No. 1155). They compare the present value of Social Security contributions of the (current) elderly with the present value of expected benefits of this same group. They find that benefits are typically three to four times the size of contributions. In addition they find that the wealthy receive the largest transfers in dollar terms and in some cases have the highest rates of return on Social Security contributions.

The incentive effect of Social Security on retirement behavior is a continuing topic of research. Jerry A. Hausman and I, in "Social Security, Health Status, and Retirement," use a continuous-time hazard model and a Brownian motion model to analyze the effect of Social Security and other factors on retirement behavior. We find that increases in Social Security benefits have accounted for a substantial portion of the reduction in the average age of retirement. The estimated effect of Social Security benefits on retirement is somewhat lower but qualitatively consistent with the earlier findings of Hurd and Michael J. Boskin; both papers use data from the Retirement History Survey. In "The Effect of Social Security on Retirement in the Early 1970s," Hurd and Boskin argue that most of the reduction in the age at retirement during that period can be explained by the concomitant increase in Social Security benefits. These results may be compared with a case study of the effect on retirement of private pension benefits among California public school teachers; that analysis was done by Steven Kutner in "Individual Attributes and Pensions Acceptance Decisions: A Case Study." As with Social Security benefits, Kutner finds that greater private pension benefits are also more likely to be associated with individuals retiring earlier.

Several researchers have been analyzing the incen-

tive effects of private pensions at a more conceptual level. In "Pensions and the Retirement Decision," Barry Nalebuff and Richard J. Zeckhauser provide a framework for assessing the influence of defined-benefit pensions on retirement, with an emphasis on the effect of heterogeneity among employees. They argue that pensions, in addition to wages, provide an additional instrument for attracting, motivating, sorting, and retaining workers, while facilitating appropriate retirement decisions. W. Kip Viscusi, in "The Structure of Uncertainty and the Use of Nontransferable Pensions as a Mobility-Reduction Device," argues that with worker uncertainty about future job performance and turnover costs, pensions can be important in self-selecting more stable employees and in reducing turnover among workers who are attracted to the firm. In "Incentive Effects of Pensions" (NBER Working Paper No. 1126), Lazear analyzes the ways in which various specific provisions of pension benefit formulas influence worker behavior. He argues that if the pension rule is taken to be exogenous, then many provisions of defined-benefit plans have adverse incentive effects. Based on his model, for example, complete and immediate vesting is a necessary condition for fully efficient pension plans. On the other hand, defined-contribution plans, in contrast to defined-benefit plans, always induce an efficient allocation of resources.

Peter A. Diamond and James A. Mirrlees take a different aim on pensions in "Insurance Aspects of Pensions." Rather than analyzing the incentive effects of exogenously given pension plans, they consider the form of private pensions that is likely to arise when employers provide pensions, rather than the government formulating an optimal pension policy, for example. Their work emphasizes that workers may like to have insurance against many work-related contingencies: disability, future productivity, change in employment, and so on. In a similar vein, Bulow and Wayne Landsman, in "The Relationship between Wages and Benefits," pose three questions: (1) How should a firm choose the types of benefits it offers, and how will different workers be affected by them? (2) What is the appropriate way to account for benefits when evaluating firm liabilities or worker wealth? And (3) what inferences can be made about firms that offer different sorts of benefits? They conclude that the answers to these questions depend on the model of the firm-employee relationship. They consider three economic models of this relationship, as well as some noneconomic models. They also present empirical evidence based on salary versus pension compensation at Stanford University that bears on their questions.

Jerry R. Green analyzes the riskiness of defined-benefit pension plans in "The Riskiness of Private Pensions." He considers the risk characteristics of four forms of defined-benefit pension plans. He finds that the plans based on a percentage of final salary are least risky, when compared to a conventional plan, a pattern plan, and a plan based on the worker's career average salary.

Work on aspects of public pensions has been started by Herman B. Leonard in "The Federal Civil Service Retirement System: An Analysis of Its Financial Condition and Current Reform Proposals." He considers the current fiscal condition of the federal civil service retirement system and analyzes a major proposed reform of it. Among his findings are that the unfunded liability of the system amounts to approximately $50 billion. The three major retirement programs of the federal government—the federal civil service retirement system, the military pensions system, and the Social Security system—have total net liabilities approximately twice the size of the current officially recognized national debt. Labor expenses recognized in the direct expenditures budget considered by Congress should be about 22 percent higher than they currently are to account for full funding of pensions obligations occurred in each year. Leonard also demonstrates that the existing system provides a strong financial incentive for federal employees to continue working until they attain full retirement eligibility, usually between ages 55 and 60, and then it provides a strong incentive for them to retire. The reform proposal of the Office of Personnel Management would constitute a major overhaul of retirement benefits. Among other things, it would constitute a 50 percent cut in the net pension wealth of current employees. It is financially comparable to a 15–30 percent cut in the annual compensation of federal employees over the remainder of their working lives.

Work on most of these topics and others is continuing under the Bureau's project on public and private pensions. In the labor area, research will begin on the determinants of selection of individual retirement plans, such as IRAs and Keogh plans, and on the amount of contributions to such plans. We shall also continue to study the important impact that unions have on pension plans and on the level of pension benefits. Additional analyses of public pension systems, including the military retirement system and local pension plans, will be undertaken. A major issue for almost all of these public plans is the large unfunded liability that they incur and the inappropriate nature or total lack of accounting for these liabilities in financial statements and planning.

Research Summaries

The following articles represent the presentations made at NBER's Annual Research Conference in New York on October 3.

Minority Youth Unemployment

Richard B. Freeman

The youth unemployment project has a particularly interesting history. The Bureau completed a youth employment study, resulting in a book edited by David A. Wise and Richard B. Freeman that was published by the University of Chicago Press in 1982. In that study two or three aspects of the youth unemployment program were striking: first, the employment-to-population ratio had fallen very sharply for black youths in the 1970s, but not for white youths. In one sense, the youth unemployment problem that other countries were experiencing at that time was concentrated among young blacks in the United States. As a result of the decline in employment to population among blacks, the figures for the late 1970s showed enormous racial differences, far exceeding those in earlier decades.

The second finding was that government information, in particular the Current Population Survey (CPS), was inadequate for understanding the problem. Basically, the CPS asks, "Are you working?" If you are not working, you are classified as unemployed or out of the labor force, two states about which little additional information is gathered. NBER labor economists thought that what these jobless youths were doing, not what they were *not* doing, would yield a clue to the problem.

In the government survey, there is also a lack of information on certain alternatives to work that may be quite important to these youths. The major alternative is crime, broadly defined to include certain kinds of illegal activities (nonviolent) but not others.

NBER developed a set of questions to ask inner-city minority youths and went to Mathematica, Inc., for a survey using this questionnaire. There was great concern about getting a reasonable response, but over 2000 youths from the worst poverty tracts in three U.S. cities did respond; that represented about an 80 percent response rate.

NBER asked a set of innovative questions about the daily activity of these youths, their desire to work, their use of drugs, illegal activities, and their perceptions of the market. One set of questions had to do with willingness to work: "Well, really, how willing are you to take a job at different levels of pay?"; and "Would you take a full-time job right now, if it were as a laborer in a factory at $2.50 an hour?" If yes, the interviewer went on to the next question. If no, the interviewer raised the hypothetical wage to $3.50 an hour and then to $5.00 an hour. This was an effort to get at the reservation wage of these young people. One problem with the official government statistics included in the CPS is that this question was never asked; you never know at what wage the unemployed would take a job.

A second set of questions in the NBER survey dealt with some of the illegal things that the youths may have done over the past 12 months. A fair number of young people reported crimes; approximately one-quarter of the total income in the sample came from illegal activities. Even this may understate the amount of crime committed.

A third finding from the survey had to do with absenteeism: the fact that many of these inner-city black youths were fired from their last job is highly linked to the fact that they reported themselves as being absent quite a bit. Most companies have some rule that says that if you're absent a certain number of times during a probationary period, you're out. The absence rate for these kids was on the order of one-and-a-half times that of comparable whites. So there was clearly a job performance problem with these youths. Even so, another of the studies reported that differences in layoff rates were not the prime cause of differences in unemployment patterns.

In spite of all the problems in the quality of education in the inner city, the project found that staying in school longer was beneficial for these kids. Those who stayed in school longer clearly had better employment records. There was also some evidence that post-school training helped them.

One of the major findings in this project may be called "race, not space." This result comes largely from a detailed study of Chicago. In the Chicago area, there are basically two clusterings of blacks, on the west side and on the south side. There are many factories and jobs on the west side; the south side is mostly residential. On the basis of proximity to work, one would think that those youths on the south side would have a much worse employment experience than those on the west side, close to jobs. But there turns out to be very little difference between them. Moreover, if you look only at the borderline between where the blacks and the whites live on the west side, you find that the white kids get jobs. The conclusion here is that the problem facing these black youths is not one of lack of jobs in their area; even when the jobs *are* in their areas, the white youths still get them. This has a policy implication for how successful cities would be if they ever went to some sort of enterprise zone scheme; a lot of the employers might just bring in white youths from elsewhere in the city.

The sixth finding is that a lot of the black youths' unemployment has to do with the fact that they are out of work for very long periods of time and, once nonemployed, they have great difficulty getting a job again. They have short-term jobs followed by long, extended spells when they are out of the work force. Twenty percent of the kids may not be employed for over a year. When they are not employed, moreover, they appear to do little to raise their work skills for employers. Also, those who reported that they could make more on the street were out of work the most. That can be interpreted as a supply response to this alternative possibility.

NBER researchers also went to employers and asked them, "How big a strike is it against a youth if he does have a bad work history?" The employers reported that they were greatly concerned about these youths who

held a job for a short time and then left, either because they were absent a lot and got fired or because they quit the job. Employers were looking for steady workers.

With respect to reservation wages, one study found that blacks answer questions about wages very similarly to comparable white youths. Their occupational goals are similar to those of the whites. Since there are some differences in their possibilities of getting jobs, and there are some differences in the wages at which they *do* get jobs, about 30 percent of the longer period that blacks are out of employment can be explained by the fact that they maintain relatively high reservation wages. Black youth should not necessarily lower their expectations, nor should they take lower wages than white youths, which would be illegal discrimination by the employer. But the fact that they don't make any adjustments in their wage expectations contributes to joblessness.

A third question focused on what the youths did in a typical day. Did they spend their time fruitfully or not?

In general, the survey appears to have correctly identified young persons facing the most severe economic problems. The inner-city youth in the NBER survey, compared to all black youth from the National Longitudinal Survey of young people, and all white youth, were much more likely to be unemployed or much less likely to be employed. They tended to have slightly lower wages than other youths and they worked fewer weeks. Sixteen percent of them reported crimes; 26 percent reported drug use beyond marijuana; 20 percent reported alcohol use. Only 17 percent of their time was spent on anything that could be considered socially useful. The bulk of it was spent on either TV, movies, music, or the like; that is, leisure.

These kids also had far worse family backgrounds than other kids. One-third of them live in public housing, and almost one-half of them have a family member on welfare. Only 28 percent of them have a man in their household; only 41 percent have a family member working or in school, compared with 71 percent for white youths of the same age. That, it turns out, is a key variable, because people with someone in the family working are more likely to be working themselves than those who don't have someone else in the family holding down a job.

The questionnaire also asked why those youths who had had jobs left their last job. The striking result was the discharge rate. Typically, discharge rates are very low: people rarely get fired; most often they get laid off or they quit. These youths got fired.

To ascertain perceived opportunities from crime the survey asked, "Do you think you can make more on the street, or in a legitimate job?" One-third of these youths said they thought they could make more on the street, although "on the street" was not defined as particularly legal or illegal.

Finally, the interviewer asked, "How easy would it be for you to find a job if you went out tomorrow and really looked?" Close to one-half of the youths thought it would be very or somewhat easy to find a job as a laborer. Almost two-thirds of them thought it would be easy to find a job at the minimum wage.

The major results of the NBER project can be summarized in 12 statements. The first result, and in some ways the most surprising, is a finding that cities with a high female proportion of the work force had the worst labor markets for young blacks. Both wages and labor participation rates were lower for blacks in those cities. The interpretation put on this was that the rise in female participation rates in this country has really hurt the job opportunities for these blacks. Women coming into the job market go into the same entry-level jobs; otherwise, these jobs might have been filled by young blacks. This is now being checked with time-series data, and with the 1980 census data, in an effort to test the sturdiness of the result. But as it stands, it looks as though a high female participation rate is harmful to job opportunities for young blacks.

Second, as part of the NBER project, kids graduating or about to graduate from high school in Newark, New Jersey—some white and some black—were sent out, being told, "Here's a list of jobs that we've identified; go and see what happens. We'll pay you to come back and report to us what happens when you apply for these jobs." This was an effort to get some information from employers. It was very difficult finding white youths to participate; black youths were much more eager to go through this process. One conclusion from this was that white youths have much better links to the job market. However, it became apparent that both white and black youths were what is called "reference poor." They'd fill out forms that asked, "Who do you give as a reference for yourself?" and they would list their friends at school. They wouldn't report teachers or previous employers; this was true for both black and white youths.

This auditing experiment provided two types of results: one presented the nature of the job market as these youths saw it; the other indicated that the black auditors were treated less courteously, in some respects, than the white auditors. For example, people were less likely to call them "Sir."

Among the more positive findings, the NBER project found that churchgoing and "right attitudes" help. The youths were asked whether they attend church and whether they were members of church groups. One idea was that the church (a major social institution in the black community) must be doing things that will help these youths advance in society. Another hypothesis was that youths with the "right" outlook might be doing better than others. Churchgoing turned out to be a significant factor. The youths who went to church behaved differently from those who did not report themselves going to church. Independent of that, the youths who believed that hard work leads to success were, in fact, succeeding. But does one interpret these results as the role of the church as a social institution helping youth, or of attitudes causing behavior? Or is it that "good kids" go to church, get jobs, stay in school, don't commit crimes, and have the right attitudes? NBER researchers have done some statistical tests and used

efforts to probe this; their conclusion is that these attitudes and churchgoing in fact reflect something more than a sorting of kids by "good" and "bad."

Another finding also got a lot of headlines: the role of crime. People were asked their perception of whether they they would get caught for committing a crime; and if so, would they be convicted? If convicted, would they go to jail? The finding was that, indeed, these youths' perceptions of riskiness and rewards of crime are a major factor in whether they choose a legitimate job or crime. The youths who perceived that the chances to make money illegally were pretty good tended to commit crimes. They tended not to be employed, not to be in school, not to spend their time productively, and the elasticities of supply between crimes and legal activities were fairly significant.

That result is striking, given the crime literature. Most studies of the trade-off between unemployment and crime have found very modest linkages. These studies were done on aggregate data for crime rates and unemployment rates. But the NBER work focuses on a very criminally prone group and on their personal opportunities to engage in crime versus work. It really yielded a much stronger result than has the aggregate work in the past.

The tenth finding was that if you compare people in welfare homes, given the same family income and the same other attributes as people in *non*welfare homes, the kids in welfare homes do much worse. If there were a natural reduction of the fraction of families on welfare, then the odds are that the youths would benefit as well as the rest of their families.

An additional finding is that as youths age, their employment rises but *not* very rapidly. The problem of inner-city young black male joblessness is not going to disappear simply because of aging. High jobless rates seem likely to plague this group well into their late twenties and thirties.

The twelfth and final finding is that the supply of black youths is very responsive to incentives and opportunities to work or engage in other activities. If the market situation basically is bad and the youths see crime as a high-paying, low-hours-of-work alternative, they respond to this significantly. This suggests that if the reverse were true and there were job opportunities available, or incentives to staying in school, the youths would respond positively and significantly.

Debt Markets, Government Deficits, and Private Capital Formation

Benjamin M. Friedman

A concern for the size and rate of growth of federal government deficits is a common thread in much of what one reads and hears about the current state of the economy. To date, estimates of the impact of such deficits generally have been based on flow-of-funds analyses. An alternative approach is to base the analysis on relationships involving stocks of assets and liabilities outstanding, or stock-flow analysis.

One reason for seeking to go beyond the familiar flow-flow analysis of the deficit prospects of the U.S. government is simply the desire to have an alternative analysis either to reinforce or to refute the results of the more conventional approach. Perhaps a more compelling reason, however, is the fear that well-known measurement problems may distort the meaning of changes over time in some of the flows that are most central to the conventional analysis. For example, public debt interest payments included in the current services and adjusted Reagan deficit projections amount to 3.3 percent and 2.9 percent, respectively, of gross national product on average during 1984–88—large amounts in comparison to the average projected deficits. Given prior and continuing price inflation, some part of these interest payments really represents a repayment of debt principal, but how much? Allowing for these and similar adjustments is by itself a significant task, and a difficult one.

An alternative approach is to base the analysis on relationships involving stocks of assets and liabilities outstanding. To the extent that nominal interest payments include repayment of debt principal, for example, focusing on movements over time in debt stocks (relative to, say, gross national product) effectively compensates for this effect. Stock-flow relationships are both less familiar and potentially more complicated than flow-flow relationships, especially in a dynamic setting, so that spelling out formal analytical models is more challenging in this case.

The chief regularity that stands out in the U.S. economy in this regard is the close relationship of the *total* debt outstanding, issued by *all* U.S. borrowers other than financial intermediaries, to U.S. gross national product. The total debt ratio of the U.S. economy has displayed essentially no trend, and only a limited amount of cyclical variation, throughout the post-World War II period. More important for the purpose at hand, the stability of this relationship between outstanding debt and nonfinancial economic activity has not represented merely the stability of a sum of stable parts. Neither private sector debt nor government debt has borne a stable relationship to economic activity over time, but their total has.

The strong stability of the *total* nonfinancial debt ratio stands out plainly in contrast to the variation of the individual sector components. Although the total debt ratio rose sharply during the most recent business recession, as gross national product in the denominator weakened while substantial credit expansion continued, data for the first half of 1983 already show the beginning of a return toward the historical norm of about $1.45 of debt for every $1 of gross national product.

The experience of a similar, although less pronounced, cyclicality in prior recessions also suggests that the 1982 bulge does not represent an interruption of the basic long-run stability. Moreover, the stability of the total debt ratio of the U.S. economy is of long standing. With the exception of a sharp rise and subsequent fall during the Depression of the early 1930s (when much of the debt on record had defaulted de facto), and to a lesser extent during World War II, the total debt ratio in the United States has been roughly constant since the early 1920s.

By contrast, the individual components of the total debt ratio have varied in diverging ways both secularly and cyclically. In brief, the post-World War II secular rise in private debt has largely mirrored a substantial decline (relative to economic activity) in public debt, while cyclical bulges in public debt issuance have mostly had their counterpart in the abatement of private borrowing. Households have almost continually increased their reliance on debt in relation to their nonfinancial activity throughout this period. Both corporations and unincorporated businesses have also issued more debt steadily, on a relative basis, except for temporary retrenchments during recession years. State and local governments steadily increased their relative debt issuing activity during the 1950s and 1960s, but just as steadily reduced it during the 1970s. Finally, except only for 1975-76 and 1980-83—years marked by large deficits resulting from recession and its aftermath—the federal government has reduced its debt ratio in every year to date since 1953, although this relative debt reduction has also been slower in years when even milder recessions have temporarily inflated the government's deficit (and, again, depressed gross national product in the denominator).

Given the long-standing stability of the total debt ratio of the U.S. economy, the evolution of the federal government's debt ratio provides a useful perspective on the magnitude and import of the federal budget deficit. During the post-World War II period as a whole, the federal debt ratio has declined not just from 62.9 percent in 1953 but from 103.4 percent in 1946. Indeed, the 24-29 percent range in which the federal debt ratio fluctuated during the 1970s, and until 1982, corresponded to the 27.4 percent value in 1918. The past decade has already marked an important departure from prior experience, however. The years 1975 and 1976 were the first since 1953 in which the government debt ratio rose, and the renewed decline during 1977-79, which was subsequently reversed by the recession years 1980-82, was not sufficient to reduce the ratio to its 1974 low. The government debt ratio rose still further during 1983, and the deficit projections indicate that it will continue to do so for the foreseeable future.

This increase in the federal government's debt ratio is relevant to the implications of fiscal policy for private capital formation because, in the context of a stable, economywide total debt ratio, it represents a useful summary measure of the net impact of federal deficits on the environment for private financing. If the government deficit were sufficiently small, or if either real economic growth or price inflation were increasing the gross national product sufficiently rapidly, then the government debt ratio would be falling—as it was, almost continuously, throughout the first three decades following World War II. Conversely, when the deficit is sufficiently large in relation to the size and growth of the economy, then the government debt ratio is rising—as it did in 1975-76, and has during 1980-83. Moreover, the nature of this stock-flow relationship is that, by comparing the nominal stock of outstanding government debt to the gross national product, it implicitly allows not only for economic growth but also for the real capital gain that the government earns by inflating away its prior debt obligations. A further incidental, but also helpful, result of focusing on the government debt ratio measure is that it readily illustrates the lack of fundamental importance to be attached to a precisely balanced government budget in a growing economy.

If the total outstanding debt of the economy remains approximately stable in relation to gross national product over time, then a sustained movement in the government debt ratio implies an offsetting movement in the aggregate debt ratio of the private sector. A falling government debt ratio such as that experienced during 1946-74 implies a rising private debt ratio, while a rising government debt ratio such as that during 1975-76 and 1980-83 implies a falling private debt ratio. The relevance in turn of a rising or falling private debt ratio for the ability of the economy to undertake capital formation stems from the traditionally close connection in the United States between debt financing and net private investment in new plant and equipment.

In the absence of a major change in financing patterns, therefore, the ability of the economy to achieve a greater capital intensity—that is, to increase its capital stock in relation to total output—depends at least in part on the ability of the private sector to increase its debt in relation to gross national product. Over time, however, the debt ratio of the private sector moves inversely with the government debt ratio. In the end, the rise or fall of the *government* debt ratio is therefore likely to be an important factor shaping the relationship between growth of the capital stock and growth of the economy's total output.

Under the budget proposal version of the *current services* projection, the outstanding debt of the U.S. government will rise from 33.4 percent of the gross national product as of midyear 1983 to 51.0 percent at the end of fiscal year 1988. Under the midsession review version of the same projection, the corresponding rise

will be smaller—to 44.5 percent in 1988—because of different assumptions about economic growth, Social Security legislation, and other factors. The actual outcome under a continuation of current tax and spending legislation will probably be between these two extremes.

The projected deficits implied by the budget proposal and midsession review versions of the *adjusted Reagan* projection suggest increases in the government debt ratio to 39.5 percent and 42.4 percent, respectively, at the end of fiscal year 1988. Once again, the actual outcome under the adoption of all of the administration's tax and spending proposals except the contingency tax plan (and with the repeal of interest and dividend withholding) will probably lie within this range. The analogous range for the adjusted congressional resolution projection is indistinguishable in this context from the range for the adjusted Reagan projection through 1986.

The main point is that the ranges for both the current services and the adjusted Reagan deficit projections will continue to carry the government debt ratio further upward, instead of returning it toward the 24.8 percent postwar low reached in 1974, or stabilizing it at the 1982 level of 30.1 percent or even the midyear 1983 level of 33.4 percent. These projected further increases will raise the government debt ratio to levels last experienced two decades or more ago—the early 1960s under the adjusted Reagan projection, or the 1950s under the current services projection.

A sustained increase in the government debt ratio of anything like these magnitudes will be unprecedented in the postwar experience of the U.S. economy. If the total debt ratio of the economy continues to remain near its historical norm, this increase in the government debt ratio therefore implies a comparably unprecedented decline in the private sector's debt ratio. As of midyear 1983, the debt ratios of the household and combined (corporate and unincorporated) nonfinancial business sectors were 53.2 percent and 53.0 percent, respectively —already down from 53.9 percent and 54.5 percent, respectively, at yearend 1982. A decline of 15–25 percent applied either to households or businesses, separately or together, will represent a substantial readjustment. The market forces (chiefly high real interest rates) that constrain the private sector to limit its debt expansion to a slower pace than that of nonfinancial economic activity—and not as a temporary retrenchment in recession, but on a sustained basis at full employment—will probably also affect capital formation in the private sector.

Although a renewed depression of residential construction could perhaps be sufficient to reduce household mortgage borrowing by enough to absorb the entire required decline in the debt ratio of the private sector, especially under the smaller adjusted Reagan deficits, even that extreme outcome would probably not permit any growth at all in the debt ratio of the business sector—nor would sacrificing homebuilding to such an extent necessarily be desirable anyway. More probably, business debt relative to income will also have to decline in order to make room for the ballooning federal government debt. Without the ability to raise external funds in the credit market, the business sector will largely have to forgo taking advantage of the recently legislated investment incentives unless it turns massively to equity financing—an unlikely prospect in light of long-standing U.S. business financing patterns. In terms of the factors directly confronting business investment decisions, the problem will be that the increased real cost of financing (and, for some companies, reduced availability) will outweigh the added attractiveness of new investment resulting from the large, favorable tax changes. Under these conditions business net capital formation will probably decline still further from the recent low level.

The conclusion of this analysis from the perspective of stock-flow relationships matches the conclusion reached on the basis of flow-flow relationships. In the absence of some break from the historical patterns of economic behavior that is now difficult to foresee, the continuation of the large government deficits now projected—for even after the return of the economy to full employment—will constitute a substantial impediment to the net capital formation of the U.S. economy.

The Taxation of Income from Capital

Mervyn A. King

Is the success or failure of some countries, compared with others, the result of significant differences between their tax treatment of companies and the returns to investment? To answer this question, NBER undertook a project to evaluate and compare the experience of four countries: the United States, United Kingdom, Sweden, and West Germany. The four countries have experienced different growth rates of both output and investment, but in all four there has been increasing concern about the effect of the tax system on savings and investment, especially given the high rates of inflation in the 1970s.

This concern has led many to consider fundamental reforms, both of the personal and the corporate tax systems. In practice corporate tax systems have been amended to allow for the impact of inflation on the definition of the corporate tax base; discussion of further changes continues. More fundamentally, there are those who argue that the present income tax system should be replaced by a tax on personal consumption and that corporate taxes should be either abolished or changed into taxes on corporate cash flow. One rather interesting phenomenon characterizes both proponents and opponents of such changes: both sides of the argument

take for granted that we start from a tax system that resembles, at least reasonably closely, a tax on economic income. The fact that we call the system an income tax means that people assume that that is what it is. I argue that this position is simply false and that the way in which it is false is common to most developed countries.

The NBER project was not primarily concerned with measuring the tax burden in the sense of average tax rates but rather focused on the incentives to save and invest afforded by the tax systems. It tried, therefore, to estimate effective marginal tax rates on capital income in the corporate sector where the marginal effective tax rate was defined as the present value of taxes net of subsidies relative to the income that a marginal investment project would yield.

The study examined three major questions. *First*, what are the main differences in the effective tax rates between the countries? Since the investment and growth record varied widely among the four countries, it was interesting to ask to what extent the tax systems employed were responsible for such differences. As will be shown, no clear pattern emerges. *Second*, one of the major findings of the study is the enormous disparity in effective tax rates between one project and another within a given country. This aspect of the tax system is understood by some and perhaps by many, but few realize the magnitude of these variations. In fact, it is possible that the average marginal effective tax rate on investment is of rather little consequence when compared to the enormous variance of tax rates within a country. Some projects are highly subsidized and others are taxed at extremely high rates. *Third*, the impact of inflation on marginal tax rates on capital income has received a good deal of attention in recent years. One can argue that this concern has been overstated and that in some countries inflation, ceteris paribus, lowers the effective tax rate.

The project's definition of the effective tax rate is very simple and straightforward. Hypothetical investment projects are financed by individual savers in the economy who sacrifice consumption today, transfer resources to the corporate sector, and, at some point in the future, receive a return on their original investment. In the absence of taxation, this circular flow of resources from savers to companies and then from companies back to savers would be unaffected by government; the rate of return that savers would earn on their money would be equal to the rate of return that companies earned on their investment projects. But in practice taxes do intervene and constitute a wedge between the pretax rate of return on investment and the posttax rate of return on savings. This wedge is what the NBER project tries to measure. It depends on several factors: (1) the way in which funds are channeled from savers to companies (whether this be in the form of subscription to new equity, allowing earnings to be retained in the company, or purchase of debt); (2) the kinds of assets in which companies invest these funds, because depreciation and other allowances vary from one asset to another; (3) the industry in which the company operates, because some taxes and subsidies are industry specific; and also of course (4) upon the personal tax rates of the individual savers. Some savers pay high personal tax rates whereas others are taxed at zero rates (for instance a tax-exempt institution such as a pension fund).

The aim of the NBER group was to model all the relevant features of the tax system that influence any part of this circular flow. To that end, we constructed a simple model that relates the rate of return on an investment project to the return provided to savers through the cost of capital. It is possible to invert the usual formula for the cost of capital to find the maximum rate of return that the company could pay to its investors as a function of its pretax rate of return. One can then imagine various kinds of hypothetical projects, each of which earns some assumed pretax rate of return. Suppose that all of these projects earn a pretax rate of return of 10 percent per annum in real terms. For a given combination of asset, industry, source of finance, and saver, it is then possible to compute the posttax rate of return to the saver. In the absence of taxes this too would equal 10 percent per annum in real terms, but with taxes the two rates of return will differ.

One might expect that in general the rate of return to savers would be below the pretax rate of return because the tax system collects positive revenue. But there are many subsidies at the margin to investment projects in the different countries in the NBER study, and it is not always the case that the posttax rate of return lies below the pretax rate of return. When this is the case, a marginal project is effectively subsidized by the rest of society. The subsidy need not take the explicit form of a cash payment to the company but may take the form of the government collecting less taxes from profits earned on existing projects than it otherwise would.

In this way one can compute an effective marginal tax rate for each of the hypothetical investment projects. To keep things simple, this study considers three types of asset: machinery, structures, and inventories. It considers three industries: manufacturing, other industry, and commerce. It looks at three types of finance: debt finance, internal equity financed through retained earnings, and equity financed through new share issues. Finally, the NBER work looks at three types of owner or saver: households, tax-exempt funds (which comprise mainly but not exclusively pension funds), and life insurance companies. These three types of saver are taxed in rather different ways. There are, therefore, 81 different combinations or hypothetical projects, and one can calculate an effective marginal tax rate for each of these projects. The NBER study did this in each of the four countries.

In themselves, these rates are interesting because they illustrate the enormous variation in effective tax rates from one kind of project to another. Some tax rates are in excess of +100 percent and others are below −100 percent. For the former possibility, savers are receiving a negative real rate of return on their savings.

Clearly, there are significant differences among the different types of savers and in part this helps to explain why, in those countries where the differences are greatest, the size of tax-exempt funds has grown extremely rapidly.

The project consisted of four country teams working and meeting regularly, and each team produced a great deal of new data on the composition and structure of the corporate sector. For example, one team developed a large survey of the composition of share ownership in West Germany. Very detailed data on the structure and composition of the capital stocks in the four countries were particularly important in constructing both weights and depreciation rates.

Below are some of the main points of comparison among the four countries and the position in the United States. For purposes of comparison these tax rates are all calculated for the calendar year 1980.

For an assumed pretax rate of return of 10 percent per annum and the tax code of 1980 in each country, the NBER work shows the overall weighted average marginal tax rate. It is clear that the lowest tax rate on investment in the corporate sector is to be found in the United Kingdom: this rate is close to zero. The tax rate in the United States (37.2) is slightly higher than that in Sweden (35.6) but significantly lower than that in West Germany (46.1). For machinery, tax rates in the United States (17.6) are significantly higher than in the United Kingdom (-36.8) but lower than those in West Germany (44.5). The tax rate in manufacturing is higher in the United States than in the other countries, but in aggregate this is offset by a lower tax rate on other industry.

To isolate the effects of the tax code alone, effective marginal tax rates are also computed using the weights that are appropriate to the United States. Using these standardized weights, it can be seen that tax rates in Sweden and Germany (52.6 in both countries) are higher than in the United States (37.2), although the United States has a much higher tax rate than in the United Kingdom (18.9).

Recent legislation in the United States has, of course, altered this picture. The 1981 legislation lowered tax rates significantly but these were raised by the 1982 Tax Equity and Fiscal Responsibility Act. Following the 1982 legislation, tax rates fell by about six percentage points. This is a significant reduction but still seems small in comparison with the differences among tax rates on different types of investment project. The highest tax rate in the NBER set of 1981 combinations for the United States is +111 percent on a project invested in structures (in either manufacturing or commerce) financed by new share issues sold to households. At the opposite extreme, the lowest tax rate is that on a project consisting of machinery investment in the commercial sector financed by debt sold to tax-exempt institutions. This rate is -105 percent.

Assuming a pretax rate of return that remains at 10 percent per annum, one can see that the tax rates are less sensitive to inflation than has sometimes been supposed. In fact, above a certain level, inflation actually lowers the effective tax rate in three of the four countries. The exception is Sweden. Of course, when inflation rises in practice, other things change; in the last decade, an increase in inflation has been associated with a sharp fall in pretax rates of return. But the effect of the interaction between inflation and the tax code itself is rather small.

One output of this study is not simply the estimates of marginal tax rates described above but also a large amount of material describing the tax systems and the structure of the corporate sector in each of the countries examined. A computer program that computes marginal effective tax rates for any one country is available for the IBM PC. This may enable an impartial assessment of the effect of the tax system and such estimates will inform the debate over possible reform of the tax system, a debate that is likely to continue.

What do we learn from this study? First, the United States is by no means an outlier in the league of tax rates on capital income. Its tax rates are above those in the United Kingdom but below those in West Germany. The second conclusion concerns the true status of the current tax system. The pattern of unsystematic (one might almost say random) tax rates on different kinds of projects is one of the major findings of the study. Tax rates in excess of +100 percent and below -100 percent do not fit neatly with the textbook description of a comprehensive income tax, and one of the main lessons of this study is that, the terminology of the Internal Revenue Service notwithstanding, we do not have an income tax today. It is, therefore, somewhat disingenuous of the advocates of a comprehensive income tax to claim that one of its merits is that, since we start with an income tax, it avoids the need for radical reform. To move from where we are now to a comprehensive income tax will indeed involve radical changes.

Equally, the advocates of a move to a consumption tax sometimes argue that, since we have an income tax, a switch in the tax base toward consumption would lead to a substantial increase in savings and investment. This, too, appears a bold claim. We hope our project will be able to focus attention on one of the most pressing problems, and one well known to tax practitioners, namely the unsystematic treatment of savings and investment in our current tax system.

The other major finding of this study is that there is no simple relationship between inflation and effective tax rates on capital income at the margin. Nevertheless, inflation did increase the variance of tax rates and hence exacerbated the unsystematic treatment discussed above.

Do these distortions matter? We know rather little about the consequences of a misallocation of resources between different sources of finance, industry, and asset. It is clear that the potential effects of such distortions are large, although we have no convincing evidence to demonstrate that they in fact are. In addition to the normal distortions that tax rates may produce, the pattern identified in this study suggests that coun-

tries have tended to provide relative subsidies to savings and investment favored by people with rather safe careers and likely to be immobile both between jobs and locations. Moreover, a tax system in which there is a large variation in effective tax rates on projects that in economic terms are rather similar will lead to a diversion of talented manpower into activities with a very low social product, because the private return from tax avoidance is so high.

The international tax comparison study did not attempt to estimate the economic losses resulting from such distortions but focused instead on a narrower problem for which it was possible to produce more authoritative estimates. Although there is no reason to assume that a change in tax system will transform either American or British industry into sectors with Japanese growth rates, we hope that the information on tax rates will provide a basis for a more informed discussion, both academic and general.

Economic Outlook Survey

Third Quarter 1983

Victor Zarnowitz

According to the August survey taken by NBER and the American Statistical Association, the prospects for the year ahead, as seen by most of the professional economic forecasters, include the following: (1) continued expansion of total output of goods and services in each quarter of the year ahead, at average annual rates of 4 to 5 percent; (2) inflation rates in the same range, whether measured in broadest terms or limited to consumer prices; (3) unemployment rates declining gradually by somewhat less than one percentage point; and (4) no clear-cut trends in interest rates but slight declines believed to be more likely than rises in the near future.

Continuing Expansion at More Moderate Rates

According to the median point forecasts from the survey, the percentage rates of growth in real GNP, at annual rates, will be 6.8, 4.6, 3.9, 4.6, and 3.5 for the five quarters 1983:3–1984:3, respectively. The year-to-year growth is estimated at 3.1 percent in 1982–83 and 4.8 percent in 1983–84. (These are slightly higher predictions than the corresponding figures from the June 1983 NBER/ASA survey.) Average increases in the 4 to 5 percent range, which are most commonly indicated in the quarterly forecasts, are substantially lower but also more sustainable than the 7 to 9 percent increases recorded in 1983:2 and 1983:3, during the early recovery phase of this economic expansion.

Each participant was asked what probabilities he or she attaches to the alternative outcomes for the real GNP change in 1983–84. The means of the reported probability distributions are heavily concentrated in two percentage ranges: 4.0 to 5.9 (55 percent) and 2.0 to 3.9 (24 percent).

The chances of a decline in real GNP during any quarter in the year ahead are assessed as small (30 or less in 100) by a large majority (more than 80 percent) of the respondents. On the average, these probabilities vary from 10 in 1983:4 to 17–19 in the first three quarters of 1984.

Steady or Slowly Rising Inflation

The median survey forecast has the GNP implicit price deflator (IPD) rise 4.9 percent between 1983:3 and 1984:3. It puts the annual rates of percentage increase in this index during the four consecutive quarters of the same period at 4.7, 5.0, 4.8, and 5.1. This suggests a steady rate of inflation but one that is significantly higher than that recently experienced. (Between 1982:2 and 1983:2, IPD rose 4.1 percent; the corresponding four quarterly inflation figures, at annual rates, are 3.7, 3.8, 5.5, and 3.5.)

IPD is expected to increase 4.5 and 4.8 percent in 1982–83 and 1983–84, respectively, according to the medians of the point forecasts from the survey. The distributions of the mean probability forecasts of the annual IPD changes, summarized below, indicate a definite shift toward higher anticipated inflation rates. (The weighted means of these distributions, based on more detailed data, are 5.0 and 5.4 percent.)

Percent Change	*1982–83*	*1983–84*
8.0 or more	2	5
6.0 to 7.9	8	23
4.0 to 5.9	77	60
Less than 4.0	13	12

The predicted quarterly rises in the consumer price index (CPI), expressed at annual rates, fall within the narrow range of 4.4 to 4.6 percent in each of the five quarters 1983:3–1984:3. The projected increases in the CPI for 1982–83 and 1983–84 are 3.2 and 4.5 percent.

Unemployment to Decline through 1984

The unemployment rate will fall slowly but steadily, from 9.5 percent in 1983:3 to 8.7 and less in the second half of 1984. The annual averages are 9.8 and 8.8 percent for 1983 and 1984, respectively. The range of the forecasts is 8–9.6 percent for 1983:3 and 8.2–9.9 percent for 1984 as a whole. A comparison of this survey with the preceding one indicates that most forecasters now expect the reductions in the overall jobless rate to be greater (for example, in June the median prediction for 1984:2 was 9.3 percent; in September it is 8.9 percent).

Projections of GNP and Other Economic Indicators, 1983-84

	Annual				
				Percent Change	
	1982 Actual	1983 Forecast	1984 Forecast	1982 to 1983	1983 to 1984
1. Gross National Product ($ billions)	3073.0	3308.0	3624.0	7.6	9.6
2. GNP Implicit Price Deflator (1972 = 100)	206.9	216.2	226.6	4.5	4.8
3. GNP in Constant Dollars (billions of 1972 dollars)	1485.4	1531.0	1604.0	3.1	4.8
4. Unemployment Rate (percent)	9.7	9.8	8.8	0.1[1]	-1.0[1]
5. Corporate Profits After Taxes ($ billions)	115.1	129.0	160.0	12.1	24.0
6. Nonresidential Fixed Investment (billions of 1972 dollars)	166.1	162.8	171.3	-2.0	5.3
7. New Private Housing Units Started (annual rate, millions)	1.1	1.7	1.7	56.9	2.2
8. Change in Business Inventories (billions of 1972 dollars)	-9.4	-2.9	10.0	6.5[2]	12.9[2]
9. Treasury Bill Rate (3-month, percent)	10.7	8.7	8.9	-2.0[1]	0.2[1]
10. Consumer Price Index (annual rate)	6.1	3.2	4.5	-2.9[1]	1.3[1]

	Quarterly							
		1983		1984			Percent Change	
	1983 Q2 Actual	Q3	Q4	Q1	Q2	Q3	Q2 83 to Q2 84	Q3 83 to Q3 84
		Forecast						
1. Gross National Product ($ billions)	3273.7	3359.0	3431.0	3510.0	3585.0	3660.0	9.5	9.0
2. GNP Implicit Price Deflator (1972 = 100)	215.2	217.2	219.7	222.4	225.0	227.8	4.6	4.9
3. GNP in Constant Dollars (billions of 1972 dollars)	1521.4	1546.6	1564.0	1579.0	1597.0	1610.7	5.0	4.1
4. Unemployment Rate (percent)	10.1	9.5	9.2	9.0	8.9	8.7	-1.2[1]	-0.8[1]
5. Corporate Profits After Taxes ($ billions)	124.1	138.0	144.6	148.0	156.0	161.5	25.7	17.0
6. Nonresidential Fixed Investment (billions of 1972 dollars)	161.8	163.0	165.0	167.0	170.0	173.2	5.1	6.3
7. New Private Housing Units Started (annual rate, millions)	1.7	1.6	1.6	1.6	1.7	1.7	1.2	3.9
8. Change in Business Inventories (billions of 1972 dollars)	-4.5	2.0	6.5	8.0	10.0	10.2	14.5[2]	8.2[2]
9. Treasury Bill Rate (3-month, percent)	8.4	9.2	9.0	8.9	8.7	8.9	0.3[1]	-0.3[1]
10. Consumer Price Index (annual rate)	5.1	4.5	4.5	4.6	4.5	4.4	-0.6[1]	-0.1[1]

SOURCE: National Bureau of Economic Research and American Statistical Association, Business Outlook Survey, September 1983. The figures on each line are medians of thirty-two individual forecasts.

[1]Change in rate, in percentage points.
[2]Change in billions of dollars.

Stable or Slowly Falling Interest Rates

The estimates of the level of the 3-month Treasury bill rate in 1983:3 are tightly clustered between 9.0 and 9.3 percent. The forecasts for 1984:3 range from 6.3 percent to 11 percent but these outliers overstate the disagreement: the central half of the predictions lies between 8.2 percent and 9.2 percent, and the average (mean and median) is 8.9 percent. Most of the survey participants, accordingly, look to stable or slightly lower short-term interest rates a year from now. The indicated quarter-to-quarter changes tend to be small. The annual averages for 1983 and 1984 are 8.7 percent and 8.9 percent, which represents a considerable upward revision of the forecasts made in June.

The predictions of new high-grade corporate bond yields for 1983:3 are concentrated in the 12–12.5 percent range and most now seem too low. These yields are expected to rise slightly in 1983:4 but then decline gradually to near 11.7 percent in 1984:3 (the interquartile range for the latter date is 11.2–12.3 percent, the total range 9–14 percent).

Taken with the inflation anticipations, most of these forecasts imply significant reductions in real interest rates. For example, using the median predictions for the long-term rates and IPD inflation, the indicated trend would be downward from 8.3 percent in 1983:3 to 6.7 percent in 1984:3; using short-term rates, the corresponding evolution would be from 5.4 percent to 3.9 percent.

A Generally Favorable Outlook for Profits

Corporate profits after taxes, in current dollars, should register gains of 12 and 24 percent in 1983 and 1984, according to the median group forecasts from the NBER/ASA survey. Although the levels of profits have been scaled down somewhat from those predicted three months ago, the expectations are still predominantly optimistic. Since nominal GNP is predicted to increase 7.6 percent in 1983 and 9.6 percent in 1984, the survey forecasts on the whole imply sizable and increasing rises in the share of profits. When the predictions of real growth and inflation are considered as well, substantial increases in profit margins and real profits are also indicated by the average forecasts. It is important to remember, however, that the dispersion of forecasts across individuals is relatively high for profits and other variables that are particularly volatile and difficult to estimate (for example, change in business inventories).

Improving Prospects for Industrial Production and Business Investment

The expected percentage gains in industrial production are 5.3 for 1982-83, 7.9 for 1983-84, and 6.0 for 1983:3-1984:3. By the end of the next year, this index of activity in manufacturing, mining, and public utilities should be about 162 (1967 = 100), which is well above its previous peak levels of 1979 and 1981. Some of the survey members are considerably more optimistic about the outlook for industrial production than the above median forecast, and only a few are much more pessimistic.

A revival of business capital formation will help raise industrial production. The quarter-to-quarter percentage gains at annual rates in real nonresidential fixed investment average 3.0, 5.0, 4.9, 7.4, and 7.7 for the successive quarters of 1983:3-1984:3. The annual changes predicted by the median composite are 2 percent down in 1982-83 and 5.3 percent up in 1983-84.

Inventory investment will pick up, too, beginning modestly in 1983:3. The median figures in billions of 1972 dollars are 2.0, 6.5, 8.0, 10.0, and 10.2 for the successive quarters covered, through 1984:3.

Less Expansion in Consumption and Housing

Total consumption expenditures in constant dollars will show approximately equal gains in 1982-83 and 1983-84 (4.3 percent each, according to the median forecasts). The quarterly evolution of the growth in real consumption, at annual rates in percentages, will be 4.6, 3.6, 3.9, 4.3, and 3.1 in 1983:3-1984:3.

Real residential fixed investment is seen as leveling off at $54 billion annual rate through 1984:1, then increasing to nearly $58 billion in the second half of 1984. Consistent with this, housing starts are expected to stay fairly flat in the range of 1.6 to 1.7 million units. These averages are representative of the central half of the individual forecasts but the outliers are far apart: the range for housing starts in 1983:3, for example, is 1.4-2.2.

The implication of these predictions is that in the year ahead consumption and residential investment will play a much smaller part in supporting the expansion, while business investment will assume a much larger share of the task. This tendency, already noted in the previous survey, is much reinforced in the present figures.

Forecasts of Net Exports and Government Purchases

The outlook for net exports continues to be poor but seems to be stabilizing. The median projections for 1983 and 1984 are now 12 and 8 billion 1972 dollars, respectively. (The actual value for 1982 was $29 billion.) The corresponding quarterly forecasts at annual rates for 1983:3-1984:3 all run close to $8 billion or slightly higher. But the individual predictions of net exports are widely dispersed. For example, the mean for 1984:3 is 9.9 billions of 1972 dollars, and the standard deviation is 6.1 billions. The distributions of these predictions are skewed positively (that is, toward the larger figures).

Federal government purchases of goods and services are expected to rise 2.9 percent in 1982-83, 5.8 percent in 1983-84, and 5.6 percent between 1983:3 and 1984:3. State and local government purchases will decline slightly (by ½ of one percent) this year but will turn around slowly and rise 1.4 percent in 1983:3-1984:3.

Forecasters' Assumptions

A large majority of the respondents assume no additional significant tax changes until after the next presidential election. Some state that the income tax cuts were largely offset by increases in Social Security taxes and state and local taxes. Only a few assume new tax hikes in the near future.

An annual buildup of defense outlays of 4 to 8 percent, in real terms, is assumed by 18 forecasters; a buildup from 8 to 10 percent and more is expected by nine forecasters.

Fourteen respondents expect the growth rates in M1 and M2 to fall in the range of 4 percent to 8.9 percent, and an equal number specify monetary growth rates of 9 percent to 15 percent. A few assume growth within the target ranges, more often than not near the top of the range.

Most forecasters anticipate stable energy prices (16) or some (usually small or moderate) increases (14); only three state that these prices will be weak or declining.

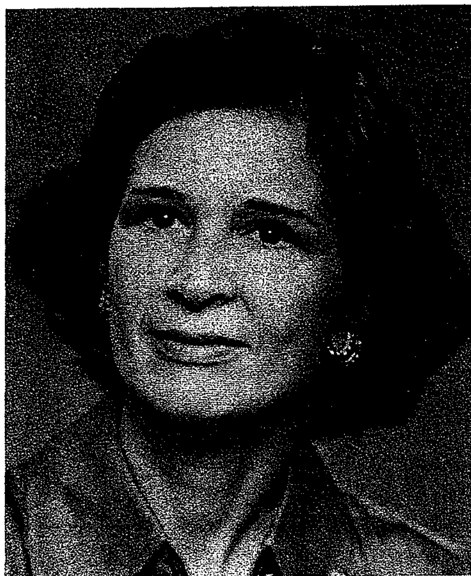
A strong and stable dollar is assumed by 11 respondents; five anticipate a weakening sometime later next year; and nine foresee an impending decline in the dollar's exchange value, which in three cases is specified to be steady and large.

This report summarizes a quarterly survey of predictions by about thirty business, academic, and government economists who are professionally engaged in forecasting and are members of the Business and Economics Statistics Section of the American Statistical Association. Victor Zarnowitz of the Graduate School of Business of the University of Chicago and NBER, assisted by Robert E. Allison and Douglas Phillips of NBER, was responsible for tabulating and evaluating this survey.

NBER Profiles

Marina v.N. Whitman

Marina v.N. Whitman has been a member of NBER's Board of Directors since 1980 and has served on the Board's Executive Committee since 1982. Dr. Whitman is vice president and chief economist of General Motors. She is a summa cum laude graduate of Radcliffe College in government and holds a master's degree and a doctorate in economics from Columbia University. Dr. Whitman is headquartered in New York City where she directs the operation of GM's economics staff in both New York and Detroit.



Prior to joining GM, Dr. Whitman was Distinguished Public Service Professor of Economics at the University of Pittsburgh where she began her teaching career in 1962. She attained full professorship there in 1971. Dr. Whitman has also served as a senior staff economist with the Council of Economic Advisers (1970–71), as a member of the National Price Commission (1971–72), and was chosen by President Nixon as one of three members of the President's Council of Economic Advisers (1972–73).

Throughout much of her career, Dr. Whitman has been associated with a number of academic, governmental, and private advisory organizations concerned with domestic and international economic issues and their interrelationship. Among them are the Council on Foreign Relations (director), Group of Thirty, and the Trilateral Commission. She was also a member of the Advisory Committee on the International Monetary System of the U.S. Treasury Department and of the President's Commission on Executive Exchange.

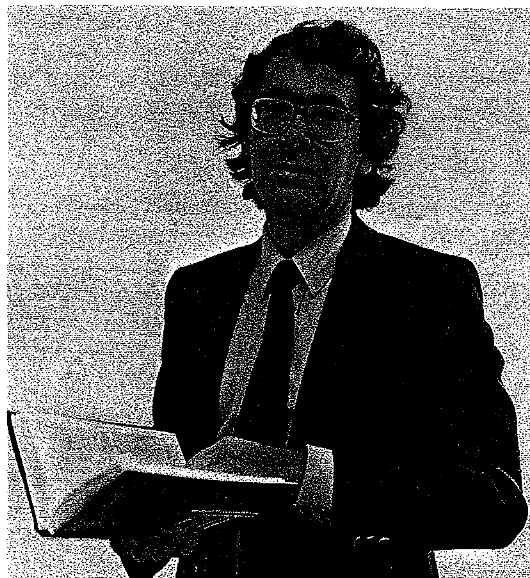
Dr. Whitman holds honorary doctoral degrees from 18 colleges and universities and has received a number of fellowships or awards, including Columbia University's 1973 Medal for Excellence. During the 1978–79 academic year, she was a fellow at the Center for Advanced Study in the Behavioral Sciences at Stanford, California.

Dr. Whitman has contributed frequently to the economics literature. In her most recent book, *Reflections of Interdependence,* she explores the impact on economic analysis and on U.S. foreign economic policy generated by the growing mutual dependency of nations since the end of World War II. Her 1981 monograph, *International Trade and Investment: Two Perspectives,* relates actual patterns of international production, trade, and investment in the automobile industry to the patterns that would be predicted on the basis of economic theory. She has also conducted a weekly television program, "Economically Speaking," that was carried by 180 Public Broadcasting Service stations. She is married to Dr. Robert F. Whitman, professor of English at the University of Pittsburgh, and they are the parents of two children.

Mervyn A. King

Research Associate Mervyn A. King, a member of the Bureau's Program in Taxation, has been associated with NBER since 1978. King received his B.A. in economics from King's College (Cambridge, England) and was a Kennedy Scholar at Harvard University in 1971–72 before returning to England to teach at Cambridge University.

Since 1977, King has been the Esmee Fairbairn Professor of Investment at the University of Birmingham (England). In the fall of 1982, King was a visiting professor at Harvard University; for the 1983–84 academic year, he is a visiting professor of economics at MIT.



King is fellow of the Econometric Society, a member of the Council and Executive Committee of the Royal Economic Society, and has recently retired as managing editor of the *Review of Economic Studies.* From

1976-78, King was a member of the Meade Committee that published a major report on the British tax system. He has also served as a consultant to the Royal Commission on the Distribution of Income and Wealth (1975), the New Zealand Treasury (1979), and OECD (1982).

King's work on taxation and corporate finance has been published in a number of economic journals, news publications, and books. His most recent NBER book, *The Taxation of Income from Capital: A Comparative Study of the U.S., U.K., Sweden, and West Germany* (with Don Fullerton et al.) is forthcoming from the University of Chicago Press.

Once described by another Bureau research associate as "the Dudley Moore of British economics," King lists his interests as reading, theater, opera, and travel.

Conferences

Recent Issues and Initiatives in U.S. Trade Policy

About fifty specialists in international trade gathered in Cambridge on August 8 for an NBER conference on Recent Issues and Initiatives in U.S. Trade Policy. The agenda for the day was:

Introduction—Conference Organizer Robert E. Baldwin, University of Wisconsin and NBER

ADMINISTRATION TRADE POLICIES

Chair: William F. Finan, U.S. Department of Commerce

Robert E. Baldwin, "Trade Policies under the Reagan Administration"

Discussants: Geza Feketekuty, Office of the U.S. Trade Representative, and C. Michael Aho, Office of Senator Bradley

CONGRESSIONAL TRADE POLICIES

Raymond Ahearn and Alfred Reifman, Congressional Research Service, "Trade Policymaking in the Congress"

Discussant: Ava Feiner, U.S. Chamber of Commerce

SELECTED TRADE POLICY ISSUES

Chair: William Barreda, U.S. Department of the Treasury

Harvey E. Bale, Jr., Office of the U.S. Trade Representative, "The Linkage between Trade and Investment Policies"

Discussants: Rachel McCulloch, University of Wisconsin, and Lee Price, United Auto Workers

Shannon Shuman, Coopers and Lybrand, and Charles O. Verrill, Jr., Patton, Boggs, and Blow, "Recent Issues in Countervailing Duty Law and Policy"

Discussants: Robert Cornell, U.S. Department of the Treasury, and Kent Hughes, Office of Senator Hart

Walter Adams, Michigan State University, and Joel B. Dirlam, University of Rhode Island at Kingston, "The Trade Laws and Their Enforcement by the International Trade Commission"

Discussants: John Suomela, International Trade Commission, and Gary N. Horlick, U.S. Department of Commerce

Of the five papers presented at the conference, two surveyed recent trade policies in broad terms, one covering policies undertaken at the executive branch level and the other dealing with trade initiatives on the part of Congress. The other three papers analyzed specific trade issues of current interest: the investment performance requirements and restrictions on direct foreign investment that many countries have introduced; the recent developments in countervailing duty law and policy; and recent decisions by the International Trade Commission (ITC) in import injury and countervailing duty and antidumping cases.

The paper by Baldwin emphasizes that the trade policies of the Reagan Administration have been shaped not only by its goals of reducing the role of the government in economic affairs; restoring noninflationary growth; and strengthening U.S. security capabilities, but also by unexpected conflicts among these objectives: various political pressures, especially from Congress and foreign governments; and unanticipated economic shocks. As a result of the interactions among these different forces and despite issuing a "White Paper" pledging to follow the principles of free trade, the Reagan Administration's actual policies with regard to import injury and export promotion have been very different from the mixed record of other recent administrations. However, U.S. "fair trade" laws have been more vigorously implemented than in the past.

Ahearn and Reifman indicate in their paper how in recent years Congress has become increasingly concerned with import competition and unfair trade practices and thus has shifted away from further trade liberalization. An important institutional change influencing congressional behavior is that power over trade matters no longer rests with a few committees but is dispersed among many committees. While the authors observe that these developments may undermine the momentum of postwar U.S. trade policy, they also note that there are major countervailing forces working within Congress. They conclude by stressing the importance of cooperation between the Congress and the executive branch.

In his paper on investment policies, Bale points out how requirements for investment performance and restrictions on direct investment can undermine the basic goals of the General Agreement on Tariffs and Trade (GATT). He explains the several different forms these requirements and restrictions can take and provides numerous examples. After describing U.S. efforts to reduce distortionary investment practices and performance requirements, he concludes that there are favorable prospects for an easing of investment restrictions at the border but there may well be a tightening of local

content and export requirements. In his view, U.S. unilateral actions might be required to achieve substantial progress in reducing protectionist trade and investment policies.

Schuman and Verrill analyze important recent changes in U.S. countervailing duty law as well as in the manner in which this law is administered by the executive branch. They note that prior to 1974 the law was generally a neglected remedy for foreign subsidization as a result of the perception by domestic firms that the Treasury refused to implement the law in a vigorous fashion. However, the situation changed significantly after 1974 and 1979 when Congress changed the law in several ways, especially in terms of required procedures. The 1979 shift in responsibility from Treasury to Commerce for administering the law was of major importance and led to significant new methodologies and procedures. The authors conclude, however, that while the system is more responsive to petitioners' complaints, the changes do not necessarily make the law "better" in terms of such standards as international economic welfare.

Adams and Dirlam analyze some of the key issues involved in recent ITC decisions. In cases of the so-called escape clause on import injury, the matter of how to regard injury to an industry caused by a recession has been a subject of considerable disagreement among the commissioners. In the automobile case, a majority of the commissioners regarded the recession as a single cause of injury that was more important than increased imports. However, in subsequent cases dealing with motorcycles and stainless steel, the majority opinion moved away from this interpretation on the grounds that it was not consistent with the intent of Congress. Adams and Dirlam also discuss the ITC's new practice of disregarding the level of subsidization in determining material injury in countervailing duty cases.

NBER participants at the conference were: Colin I. Bradford, Jr., Yale University; James Brander, Queen's University; William H. Branson and Gene M. Grossman, Princeton University; Barry J. Eichengreen, Harvard University; Oli Havrylyshyn, George Washington University; Irving B. Kravis, University of Pennsylvania; Robert E. Lipsey, Queens College; J. David Richardson, University of Wisconsin; and Barbara J. Spencer, Boston College. Also attending were: Thomas Bayard, Ford Foundation; Robert B. Cohen, City University of New York; Wilfred Ethier, University of Pennsylvania; Robert Feenstra, Columbia University; A. L. Hillman, Bar-Ilan University; Carole E. Kitti and Rolf R. Piekarz, National Science Foundation; Robert Z. Lawrence, Federal Reserve Bank of New York; Alan Medelowitz, U.S. General Accounting Office; William A. Niskanen, Council of Economic Advisers; Joseph Pelzman, George Washington University; Jorge Perez-Lopez, U.S. Department of Labor; Rita Rodriguez, Export-Import Bank; Robert Russell, International Monetary Fund; Lars E. O. Svensson, University of Stockholm; and Brian Turner, AFL-CIO.

Aspects of International Capital Mobility

In conjunction with its Program in International Studies, NBER sponsored a conference on "Aspects of International Capital Mobility" in Cambridge on August 10 with the following agenda:

Chair: Maurice Obstfeld, Columbia University and NBER

Mark Gersovitz, Princeton University, "Trade, Capital Mobility, and Sovereign Immunity"

Chair: Jonathan Eaton, Yale University and NBER

Gene M. Grossman, Princeton University and NBER, and Assaf Razin, Tel Aviv University, "International Capital Movements under Uncertainty" (NBER Working Paper No. 1075)

Chair: Jeffrey Frankel, Council of Economic Advisers

Paul R. Krugman, Council of Economic Advisers, "A Theory of Debt Crises and Rescheduling"

Chair: Nancy P. Marion, Dartmouth College and NBER

Torsten Persson and Lars E. O. Svensson, University of Stockholm, "Current Account Dynamics and the Terms of Trade: Harberger-Laursen-Metzler Two Generations Later" (NBER Working Paper No. 1129)

Gersovitz's paper discusses the determinants of international capital mobility when the deterrent to expropriation and loan repudiation is the ability of foreign investors to interfere with the foreign trade of host countries that take these hostile actions. His model provides a framework for assessing the implications of sovereign immunity and the laws that determine the scope for this type of action by investors. He discusses the effects of tariffs, supplies of domestic factors, and decisions regarding savings and consumption on the foreign capital stock in a country and looks at the causes of hostile acts. Distinctions are drawn between the behavior of open, export-oriented hosts, such as South Korea, and inward-oriented, import-substituting hosts, such as Algeria or Nigeria.

Grossman and Razin study the international allocation of physical capital when production and investment climates in various countries are subject to random disturbances that are less than perfectly correlated. They develop a model of international trade in goods and securities that incorporates potential physical capital movements and find that uncertainties play an important role in the determination of the intercountry allocation of the world's capital stock. Grossman and Razin show that, in addition to the well-known tendency for capital to flow to labor-abundant countries, relatively small and relatively low-risk countries are likely to be importers of physical capital as a consequence of the desire for portfolio diversification on the part of consumer-investors.

Krugman's paper develops a simple model of "debt crises" and the ways in which they might be handled. A

debt crisis is a situation in which creditors are in a "prisoner's dilemma": it is in the interest of creditors as a group to continue to lend, but not in their interest individually. The model that Krugman develops suggests that the central problem in debt crisis may be the inability of large creditors to keep smaller creditors lending. The result may be "unnecessary" defaults. Official lending to problem debtors may be desirable as a second-best way of avoiding these defaults.

Persson and Svensson examine the current account dynamics of a small open economy that is subject to exogenous changes in its terms of trade and in world interest rates. The effects of static terms of trade are analyzed by looking at the induced changes in the appropriate real interest rates, which affect saving and investment and hence the difference between them (that is, the current account). Changes in investment also imply changes in the levels of capital stocks in later periods, and hence affect income and saving with a lag. Although temporary and permanent, as well as anticipated and unanticipated, changes in terms of trade have very different effects, one general result stands out: there is a strong tendency toward cycles in the current account.

In addition to the aforementioned, the conference was attended by NBER associates: William H. Branson, Princeton University; Michael Bruno, Hebrew University; Willem H. Buiter, London School of Economics; Barry J. Eichengreen, Harvard University; Dale Henderson, Board of Governors, Federal Reserve System; Richard C. Marston, University of Pennsylvania; Richard Portes, University of London; and J. David Richardson, University of Wisconsin. Also participating were: Jeremy Bray, House of Commons; John Flemming, Bank of England; George von Furstenberg, International Monetary Fund; Marcus M. Miller, University of Warwick; David L. Roberts, Federal Reserve Bank of New York; Sweder van Wijnbergen, World Bank; and John Williamson, Institute for International Economics.

Coordination of Economic Policy

On August 11 and 12, NBER's international studies program held a conference in Cambridge on the International Coordination of Economic Policy. This conference, organized by Richard C. Marston of the University of Pennsylvania and NBER as part of the Bureau's Summer Institute, was funded by a grant from the Mellon Foundation. The program included six papers on international interdependence and policy coordination:

Matthew Canzoneri and Jo Anna Gray, Federal Reserve Board, "Monetary Policy Games and the Consequences of Noncooperative Behavior"
Discussant: Willem H. Buiter, London School of Economics and NBER

Jeffrey Frankel, Council of Economic Advisers, "The Desirability of a Dollar Appreciation, Given a Contractionary U.S. Monetary Policy" (NBER Working Paper No. 1110)
Discussant: Stanley Black, Vanderbilt University

Nicholas Carlozzi, Federal Reserve Bank of Philadelphia, and John Taylor, Princeton University and NBER, "International Capital Mobility and the Coordination of Monetary Rules"
Discussant: Dale Henderson, Federal Reserve Board and NBER

Marcus M. Miller and Mark Salmon, University of Warwick, "Dynamic Games and Time Inconsistency of Optimal Policy in Open Economies"
Discussant: Stephen J. Turnovsky, University of Illinois and NBER

Panel on Exchange Rate Rules:
Jeremy Bray, House of Commons
John Williamson, Institute for International Economics

Jorge de Macedo, Princeton University and NBER, "Policy Interdependence under Flexible Exchange Rates: A Two-Country Model"
Discussant: Koichi Hamada, University of Tokyo

Masanao Aoki, Institute of Social and Economic Research, Osaka, "Dynamic Assessment of Financial, Monetary, and Real Disturbances in a Three-Country World under Alternate Wage Policies"
Discussant: Jonathan Eaton, Yale University and NBER

Panel on Current Work and Directions for Future Research:
Louka Katseli, Center of Planning and Economic Research, Athens, and NBER
William H. Branson, Princeton University and NBER
Peter B. Kenen, Princeton University

In the first paper of the conference, Canzoneri and Gray focus on the game theoretic aspects of national policymaking in studying the use of monetary policy in response to an oil shock. They assume that it is too difficult to define and verify internationally coordinated policies, so they confine their analysis to three types of noncooperative solutions: (1) a Nash solution in which each country takes the other's policies as given; (2) a Stackleberg solution with the United States as leader; and (3) a fixed-rate solution with foreign countries matching the money growth rate of the United States. The superior solution depends upon the pattern of spillover effects associated with national monetary policies. With negative transmission of the effects of monetary policy from one country to another, for example, both the United States and the rest of the world prefer fixed rates to a Nash solution, although countries may differ in their ranking of the other solutions. Since the pattern of spillover effects has changed over time (especially with changes in oil pricing and wage indexation), the Canzoneri/Gray analysis provides one explanation of why international policy regimes themselves have changed.

In the absence of coordination, a monetary contraction in one country causes that country's currency to appreciate in value. The appreciation of the dollar in the 1980-83 period has been blamed both for worsening the competitive position of U.S. export industries and for raising inflation in Europe. In his paper, Frankel contends that this appreciation had positive aspects once the decision was made by the Federal Reserve to fight inflation through monetary contraction. The appreciation ensured that the U.S. contraction was shared by the exportable as well as the nontraded goods industries. Similarly, the depreciation of foreign currencies ensured that their export industries did not suffer a disproportionate loss in output relative to their nontraded industries. This appreciation of the dollar, moreover, might have been desirable even in a Nash equilibrium in which both countries were simultaneously setting policy that takes into account the other's policy.

Economists frequently contend that international capital mobility imposes a serious constraint on domestic monetary policy. In their paper, Carlozzi and Taylor dispute this contention; they argue that, even with perfect capital mobility, macroeconomic performance in one country can be relatively independent of policy rules chosen by other countries. They develop a two-country model with staggered wage contracts that they use to simulate the effects of both monetary and supply shocks. The cross-country effects of both types of disturbances are small despite the assumption of perfect capital mobility. As a result, the choice of policy rules by one country has little influence on the other country's macroeconomic performance. Since these conclusions depend upon the relative size of certain structural parameters, the paper provides a strong case for empirical research to establish the size of those parameters.

In the next paper, Miller and Salmon extend the analysis of game behavior to a dynamic setting where the time consistency of policies becomes a major issue. In the models they develop, policy takes the form of multiperiod plans that may be based on either Nash or Stackleberg assumptions. Since private agents revise their expectations in response to changes in these plans, the policymakers also act as Stackleberg leaders vis-à-vis the private sector. Some of the policy paths that are feasible in this setting are time inconsistent, in that decisions made today may not be optimal tomorrow. Thus, alternative time-consistent paths are also considered, including one labeled "perfect cheating" where the policymaker's announced plans are not carried out.

De Macedo also analyzes a dynamic model but places primary emphasis on various patterns of interdependence, including the positive and negative transmission effects of monetary policy. He develops a two-country model with the importance of relative price and real interest rates determining the direction of transmission effects. His analysis of central bank strategies reaches conclusions similar to those of Canzoneri and Gray. Thus, for example, a fixed exchange rate solution dominates a competitive Nash solution. Interestingly enough, however, de Macedo labels such a solution cooperative whereas Canzoneri and Gray label it noncooperative. The difference lies in the official behavior assumed to give rise to fixed exchange rates; Canzoneri and Gray assume that the United States acts as a leader with other countries as followers.

Because full-scale coordination of economic policies is so difficult to achieve, some countries have settled for a more limited form of coordination by joining in an exchange rate union. In the last paper of the conference, Aoki analyzes such a union in which monetary policy is directed toward fixing exchange rates between a subset of currencies. He specifies a three-country dynamic model where two countries are potential members of the union. The model incorporates a number of different behavioral relationships often suppressed in multicountry models, but the analysis is kept tractable through use of a variational technique introduced by Aoki in his earlier work. He derives a basic inequality that shows under what conditions a union is preferable to flexible exchange rates.

The conference also included two panel sessions. In the first session, Bray presented a proposal for international coordination through exchange rate rules based on a recent report by the Treasury Select Committee of the British House of Commons. Williamson then analyzed the current misalignment of exchange rates and presented a proposal for target zones for the major currencies designed to limit such misalignment. In the second session, Katseli discussed recent exchange rate policy within the European Community and its implications for international coordination. Branson and Kenen followed with critiques of the current literature on coordination, with each defining a set of questions that need to be addressed in future research.

Other participants in the conference included Richard Cooper of Harvard University, Michael R. Darby of UCLA and NBER, Barry J. Eichengreen of Harvard and NBER, John Flemming of the Bank of England, Michael Fuchs of the National Bank of Denmark, Michael Jones of Yale University, Nancy P. Marion of Dartmouth College and NBER, Maurice Obstfeld of Columbia University and NBER, Francesco Papadia of the Banca d'Italia, Peter Pauly of the University of Pennsylvania, Richard Portes of Birkbeck College, the University of London, Assaf Razin of Tel Aviv University, J. David Richardson of the University of Wisconsin and NBER, Alfred Steinherr of the EEC, Lars E. O. Svensson of the University of Stockholm, and Michael Toman of Resources for the Future.

Inner-City Black Youth Unemployment

Nearly 100 representatives of business, government, and academia met in Cambridge on August 11 and 12 for an NBER Conference on Inner-City Black Youth Unemployment. The two-day program was:

SESSION I: DEMAND-SIDE BARRIERS TO GAINING EMPLOYMENT
Chair: Richard B. Freeman, Harvard University and NBER

George Borjas, University of California at Santa Barbara, "The Demographic Determinants of the Demand for Black Labor"
Discussant: Daniel S. Hamermesh, Michigan State University and NBER

Jerome Culp, Rutgers University, and Bruce Dunson, University of Maryland, "Discrimination in Hiring"
Discussant: Paul Osterman, Boston University

SESSION II: DEMAND-SIDE FACTORS AND TURNOVER BEHAVIOR
Chair: Glenn Loury, Harvard University

Ronald Ferguson, Harvard University, and Randall Filer, Brandeis University, "Absenteeism from Work among Inner-City Minority Youth"
Discussant: Charles Brown, University of Maryland and NBER

Edward Montgomery, Carnegie-Mellon University, and Peter Jackson, Rutgers University, "Layoffs and Discharges"
Discussant: James L. Medoff, Harvard University and NBER

SESSION III: MISMATCH BETWEEN WORKERS AND JOBS
Chair: Jerome Culp

James Grant, Wellesley College, "Education and Training"
Discussant: Zvi Griliches, Harvard University and NBER

David T. Ellwood, Harvard University and NBER, "The Spatial Mismatch Hypothesis: Are There Teenage Jobs Missing in the Ghetto?" (NBER Working Paper No. 1188)
Discussant: Jonathan Leonard, University of California at Berkeley and NBER

SESSION IV: DURATIONS AND TRANSITIONS BETWEEN STATES
Chair: David T. Ellwood

Harry J. Holzer, Harvard University, "Black Youth Nonemployment: Duration and Job Search"
Discussant: Ronald G. Ehrenberg, Cornell University and NBER

John Ballen, Stanford University, and Richard B. Freeman, "Transitions between Employment States"
Discussant: Gary Chamberlain, University of Wisconsin and NBER

SESSION V: SOCIAL BACKGROUND AND ATTITUDES
Chair: Harry J. Holzer

Richard B. Freeman, "Who Escapes? Effects of Social Background"
Discussant: Paul Osterman

Linda Datcher-Loury and Glenn Loury, Harvard University, "The Effects of Attitudes and Aspirations on the Labor Supply of Young Men"
Discussant: Michael Piore, MIT

SESSION VI: INCOME SOURCES
Chair: Richard B. Freeman

W. Kip Viscusi, Duke University and NBER, "Market Incentives for Criminal Behavior"
Discussant: James Thompson, Vera Institute of Justice

Robert Lerman, Brandeis University, "Do Welfare Programs Affect Schooling and Work Patterns of Young Black Men and Women?"
Discussant: Samuel Myers, University of Pittsburgh

In his paper, Borjas examines how the earnings and employment of black men respond to shifts in the demographic composition of the labor force. He finds that women and black males are strong substitutes in production; higher employment of females leads to significantly lower wages for black males. This effect is larger for young males than for older males. In contrast, higher employment of other male groups, whether Hispanic, white, immigrant, or native, is positively related to black male wages. Similarly, higher labor force participation of other groups is associated with higher labor force participation of black males.

The Culp/Dunson paper tests for evidence of racial discrimination in the way employers treat young job applicants. The authors interviewed both black and white job seekers, all recent high school graduates, to compare their personal characteristics. When similar applicants were sent to the same firm for job interviews, it was reported that blacks were generally treated less courteously than whites. Despite the similar backgrounds and aspirations of those interviewed, the whites were much more likely to have found employment than the black youth.

Ferguson and Filer look at the determinants of absenteeism for inner-city black youth and find that youths in better jobs—and those who believe that alternative employment would be hard to find—have lower rates of absenteeism. However, youths in jobs with a high industry retention rate are more likely to be absent. This is consistent with their being more valuable to their employers and more mobile within the industry and hence less afraid of losing their jobs because of absenteeism. Thus, programs designed to upgrade job opportunities could lead to less desirable attendance behavior if they are not carefully structured.

In their study, Montgomery and Jackson analyze the determinants of job loss and conclude that the high

rate for blacks is caused mainly by low job tenure and employment in high-turnover industries and occupations. The characteristics of a job are more important in determining layoffs, but individual characteristics are more important in determining discharges.

Grant's paper examines the impact of schooling and training on the early labor market experience of youths. Using both a national survey and a survey of inner-city blacks, he finds that school dropouts have a harder transition from school to work, especially in the inner city. For blacks, these employment problems do not seem to disappear with age. Staying in school longer is associated with higher employment probabilities and wages for all youths. For the national sample, vocational education—and for the inner-city sample, work experience during school—are positively related to later employment probabilities.

Ellwood's work tests and rejects the hypothesis that black youth unemployment is the result of a spatial mismatch between where black youths live and the jobs they might occupy. He examines several sources of data for Chicago and all lead to the same conclusions: black youth do live farther from jobs than white youth. However, blacks who live near large concentrations of jobs seem to fare only slightly better than those who live far from such concentrations. Also, in areas where whites and blacks live in proximity, the racial employment differences remain very large.

Holzer examines the connection between reservation wages and the duration of nonemployment spells for young black and white males. Blacks and whites seek similar reservation wages and jobs. But since whites do better in the labor market, the blacks' reservation wages appear to be relatively unrealistic. These relatively high reservation wages for blacks have significant positive effects on the duration of nonemployment. For whites, the impact of reservation wages is smaller than for the blacks on duration of nonemployment and is larger than that for blacks on subsequent wages. Finally, reservation wages for specific low-wage, low-skill jobs are lower for blacks than for whites.

The Ballen/Freeman paper considers the transitions between employment and nonemployment for young black and white men. The authors find that employment rates of blacks rise more slowly with age than those of whites. Moreover, much of the racial differential in rates of employment and nonemployment is caused by the longer duration of nonemployment for blacks. The principal racial difference in probabilities of transition is from nonemployment to employment, rather than the opposite. This is especially true for inner-city black youth; a survey of inner-city employers suggests that "spotty" work records could contribute to the problem.

In his paper, Freeman attempts to determine "who escapes" from inner-city poverty. He looks at youths' allocation of time between socially acceptable activities, such as school and work, and socially deviant activities, such as crime and use of alcohol or drugs. He finds that churchgoing is associated with substantial differences in time allocation: those who attend church spend more time in socially productive activities. This relationship holds even after other measures of attitudes or background are included. Other background factors do affect time allocation, though. For example, being in a welfare family lowers productive time and having other family members working increases it.

The paper by Datcher-Loury and Loury considers the influence of attitudes and aspirations on the labor supply of young men. The authors find that desiring a high-quality occupation at age 30 is associated with higher labor supply for the youth, especially if he believes he has an excellent chance of fulfilling that desire. Having positive attitudes toward the labor market also raises labor supply. These results still hold when the authors control for current occupation and a wide range of background variables.

In his paper, Viscusi models the economic incentives for criminal behavior. He uses data from a survey of inner-city black youth that ask about their illegal activities and their assessment of the opportunity to earn more from illegal than from legal labor. He finds that the relatively high economic return from crime explains roughly one-third of all levels of crime income and one-sixth of all the decisions to engage in illegal acts. When only those youths neither employed nor in school are considered, these effects are roughly doubled.

Lerman's paper addresses the impact of the welfare system on racial differences in levels of youth employment. He finds that being in a welfare family has a significant negative effect on schooling and outcome in the labor market for young black men, especially for those age 20–24. In particular, those in welfare families are much more likely to be neither employed nor in school. The much higher proportion of black youths in welfare families could explain 25 percent of the racial differences in employment. The results for young women are similar and also indicate that the availability of welfare benefits raises the share of black women who become unmarried mothers as teenagers.

These papers and their discussions are expected to be published in an NBER conference volume. The availability of this book will be announced in a future issue of the *NBER Reporter.*

The Retirement Income System

NBER sponsored a conference on "The Economics of the U.S. Retirement Income System" in Melvin Village, New Hampshire, on October 14 and 15. About 40 representatives of NBER and its corporate supporters and others with an interest in pension policy participated in the following program:

Welcoming Remarks: Eli Shapiro, President, NBER

John B. Shoven, Stanford University and NBER, overview of the NBER Pension Project and "The Economic Status of the Elderly"

Zvi Bodie, Boston University and NBER, "Financial Aspects of the U.S. Pension System"

David A. Wise, Harvard University and NBER, "Labor Market Aspects of Pension Plans"

General Discussion

Reception and Dinner; Guest Speaker: Dallas L. Salisbury, Executive Director, Employee Benefit Research Institute

Panel Discussion: Future of the U.S. Retirement Income System

Moderator: Eli Shapiro

Panelists: Robert Ball, Senior Scholar, Center for the Study of Social Policy, Former U.S. Commissioner, Social Security Administration; Robert W. Feagles, Senior Vice President, Personnel and Administration, The Travelers Corporation; Dan M. McGill, Pension Research Council, University of Pennsylvania; and Bert Seidman, Director, Department of Social Security, AFL-CIO

General Discussion

NBER's pension project is now entering its third year. In the early stages of the project, Laurence J. Kotlikoff and Daniel E. Smith began compiling an extensive volume of facts about pensions in the United States; this reference work will soon be available from the University of Chicago Press.

Members of the project also explored both the financial and the labor market aspects of pensions. Conferences on those topics were held in the spring of 1982 and 1983, respectively, and the resultant volumes are forthcoming from the University of Chicago Press. A third conference on "The Economic Welfare of the Elderly" is planned for spring 1984.

This latter topic was discussed by John B. Shoven in his presentation to the New Hampshire group. Shoven's work analyzes the experience of the elderly with respect to inflation, Social Security, and other government programs, asset markets, and other factors, and he arrives at some rather surprising findings. For example, he learns that, although the elderly face the same rate of inflation as do other age groups, they tend to have higher nominal incomes than others. The level of income among the poorest elderly rose more than 100 percent between 1968 and 1978, largely because of increases in Social Security and Supplemental Security Insurance (SSI). In 1969, average wealth (including Social Security) by age 60 was $75,000; by 1979, it had reached $150,000. Among the current elderly, Shoven notes, the rich have gained more (net of their contribution) from Social Security than have the poor.

Next on the program, Bodie's presentation dealt with such questions as a firm's liability under a defined-benefit plan, how well funded such plans are, and how taxes and other factors affect pension plans. He asks, for example, What is the optimal corporate policy toward the pension plan if the goal is maximization of shareholder wealth? In theory, firms in good financial shape would fully fund or overfund the plan to take advantage of its tax-sheltering characteristics and hold relatively riskless bonds as assets. Again in theory, less healthy firms would fund their plans minimally and invest the assets in (high-risk) stocks. Bodie's analysis of actual data shows that the theories hold in terms of funding decisions but are opposite what actually occurs on the asset side.

Wise describes some of the ramifications of pensions in the labor market. For example, the structure of most plans creates an incentive to retire at age 55, or at age 65, but not during the intervening years. Changing jobs costs a lot in terms of the worker's pension, not because of vesting but rather through indexation of final benefits to lifetime wages. Wise finds that if all other factors are equal, workers covered by pension plans in fact retire earlier and change jobs less often than workers not covered by a plan.

The NBER economists also raised some areas of interest for future study. For example, what would be the costs and benefits of changes in the structure of the Pension Benefit Guaranty Corporation? How are state and local government plans funded? How does the U.S. system of pensions compare to foreign systems? What will be the role of IRAs and Keogh plans vis-à-vis private pensions in the future? What impact do unions have on the private pension system?

The Saturday morning panel and discussion focused largely on alternatives to private pension plans. Ball described the Social Security system under the 1983 amendments and was optimistic about its continued existence as one of a number of sources of retirement income. Feagles stressed the growing importance of income from work for individuals above the standard retirtement age. He suggested that corporations and interested groups review both the public and the private barriers to employment, including certain provisions of Social Security and private pension plans. McGill talked about the need for a move toward defined-benefit plans so that retiring workers can have some protection against inflation. He was averse, however, to making the private pension system mandatory. Finally, Seidman talked about the package of government programs, other than Social Security, that is designed to assist the elderly. He described in some detail SSI, the food stamp program (as it affects the elderly), Medicare and Medicaid, subsidized housing, and energy assistance, and noted that the Reagan Administration had made significant cuts in all of these programs during its first two years.

The three NBER volumes cited at the conference, currently or soon to be available from the University of Chicago Press, are: *Financial Aspects of the U.S. Pension System*, edited by Zvi Bodie and John B. Shoven; *Pensions in the American Economy,* edited by Laurence J. Kotlikoff and Daniel E. Smith; and *Pensions, Labor, and Individual Choice,* edited by David A. Wise (see "Bureau Books" for details).

Conference Calendar

Each *Reporter* will include a calendar of upcoming conferences and other meetings that are of interest to large numbers of economists (especially in academia) or to smaller groups of economists concentrated in certain fields (such as labor, taxation, finance). The calendar is primarily intended to assist those who plan conferences and meetings, to avoid conflicts. **All activities listed should be considered to be "by invitation only," except where indicated otherwise in footnotes.**

Organizations wishing to have meetings listed in the Conference Calendar should send information, comparable to that given below, to Conference Calendar, National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. Please also provide a short (fewer than fifty words) description of the meetings for use in determining whether listings are appropriate for inclusion. The deadline for receipt of material to be included in the Winter 1983/84 issue of the *Reporter* is December 15. If you have any questions about procedures for submitting materials for the calendar, please call Kirsten Foss at (617) 868-3900.

December 2, 1983
Program Meeting: Economic Fluctuations, NBER
Program Meeting: International Studies, NBER

December 2-4, 1983
Aggregate Implications of Price Setting and Contract Models, NBER/CEME

December 7-10, 1983
Income and Wealth: Horizontal Equity, Uncertainty, and Measures of Well-Being, NBER

December 10, 1983
Workshop on Survey of Income and Participation, Social Science Research Council*

December 28-30, 1983
Annual Conference, American Economic Association*

January 4-6, 1984
International Meeting, International Association of Energy Economists

January 4-7, 1984
Global Implications of Trade Patterns of Asia, NBER

January 19-20, 1984
Program Meeting: Taxation, NBER

January 20-22, 1984
Program Meeting: Development of the American Economy, NBER

February 23-24, 1984
General Equilibrium Workshop, NBER

March 9, 1984
Trade Policy Issues Meeting, NBER

March 16-17, 1984
Public Pensions, NBER

March 22-24, 1984
Income and Wealth: Long-Term Factors in American Economic Growth, NBER

March 22-25, 1984
Conference on Business Cycles, NBER

April 5-6, 1984
Panel on Economic Activity, Brookings Institution

April 12-14, 1984
Public Pensions, NBER

April 13-14, 1984
Conference on Public Policy, Carnegie-Rochester

April 20, 1984
Program Meeting: Labor Studies, NBER

April 26-27, 1984
Program Meeting: International Studies, NBER

May 3-4, 1984
Program Meeting: Financial Markets and Monetary Economics, NBER

May 21-22, 1984
Spring Symposium, National Tax Association*

June 11-15, 1984
Interlaken Seminar on Analysis and Ideology, University of Rochester

June 14-16, 1984
State and Local Public Finance, NBER

June 18-22, 1984
Konstanz Seminar on Monetary Theory and Monetary Policy, University of Rochester

June 24-28, 1984
Annual Meeting, Western Economic Association

July 12-13, 1984
Conference on Macroeconomics, NBER

August 5-8, 1984
Annual Meeting, American Agricultural Economics Association*

August 13-16, 1984
Annual Meeting, American Statistical Association*

September 13-14, 1984
Panel on Economic Activity, Brookings Institution

September 19-22, 1984
Debt/Equity Conference, NBER

September 23-25, 1984
Annual Meeting, National Association of Business Economists*

November 14-16, 1984
Annual Meeting, Southern Economic Association*

November 25-28, 1984
Annual Conference, National Tax Association*

December 28-30, 1984
Annual Conference, American Economic Association*

August 4-7, 1985
Annual Meeting, American Agricultural Economics Association*

August 12-15, 1985
Annual Meeting, American Statistical Association*

September 29-October 2, 1985
Annual Meeting, National Association of Business Economists*

November 15-17, 1985
Public Sector Payrolls, NBER

December 28-30, 1985
Annual Conference, American Economic Association*

July 27-31, 1986
Annual Meeting, American Agricultural Economics Association*

September 13-17, 1986
Annual Meeting, National Association of Business Economists*

August 2-5, 1987
Annual Meeting, American Agricultural Economics Association*

September 27-October 1, 1987
Annual Meeting, National Association of Business Economists*

**Open conference, subject to rules of the sponsoring organization.*

Bureau News

Board Elects New Officers, Members

At its annual fall meeting on September 26, NBER's Board of Directors elected Franklin A. Lindsay chairman and Richard N. Rosett vice chairman. Also, James Simler, appointed by the University of Minnesota, and Arnold Zellner, appointed by the University of Chicago, both of whom have served on the board since 1980, were elected to the Executive Committee. Finally, four new appointments were made to the board: Marcus Alexis, Northwestern University; Ann F. Friedlaender, MIT; John Vernon, Duke University; and Robert S. Hamada, Graduate School of Business at the University of Chicago, representing the American Finance Association.

Mr. Lindsay has been on NBER's board since 1976 and was vice chairman from 1980-83. He is currently chairman of Engenics Corporation in Lexington (MA). Mr. Rosett has been a member of the board and its Executive Committee since 1977. He is a faculty member at the University of Chicago's Graduate School of Business.

1983-84 Research Associates

Andrew B. Abel
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Orley Ashenfelter
Alan J. Auerbach
Robert E. Baldwin
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Ann P. Bartel
Ben S. Bernanke
Ernst R. Berndt
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Lance Davis
Michael Denny
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Rudiger Dornbusch
Jonathan Eaton
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Stanley L. Engerman
Ray C. Fair
Henry S. Farber
Daniel Feenberg
Stan Finkelstein
Stanley Fischer
Franklin Fisher
Robert P. Flood, Jr.
Roderick Floud
Robert W. Fogel
Jeffrey A. Frankel
Richard B. Freeman
Jacob A. Frenkel
Benjamin M. Friedman
Victor R. Fuchs
Don Fullerton
Melvyn A. Fuss
David Galenson
Robert Gallman
Stephen Goldfeld
Claudia Goldin
Fred Goldman
Robert J. Gordon
Roger H. Gordon
Jerry R. Green
Zvi Griliches
Reuben Gronau
Herschel I. Grossman
Michael Grossman
Sanford J. Grossman
Alan L. Gustman
Robert E. Hall
Daniel S. Hamermesh
Jeffrey Harris, M.D.
David G. Hartman
Jerry A. Hausman
James J. Heckman
John F. Helliwell
Patric H. Hendershott
J. Vernon Henderson
Michael D. Hurd
Robert P. Inman
Yannis Ioannides
John James
George Johnson
Edward J. Kane
Mervyn A. King
Alvin Klevorick
Laurence J. Kotlikoff
Pentti J. K. Kouri
Irving B. Kravis
Paul R. Krugman
Edward P. Lazear
Richard M. Levich
Gregg Lewis
Eugene M. Lewit
Robert E. Lipsey
Robert F. Lucas
Harold Luft
Thomas E. MaCurdy
John H. Makin
Burton G. Malkiel
Charles Manski
Nancy P. Marion
Richard C. Marston
Bennett T. McCallum
Charles E. McLure, Jr.
James L. Medoff
Robert C. Merton
Peter Mieszkowski
Jacob A. Mincer
Frederic S. Mishkin
Michael L. Mussa
Stewart C. Myers
M. Ishaq Nadiri
Charles Nelson
William D. Nordhaus
Maurice Obstfeld
Ariel Pakes
John H. Pencavel
James E. Pesando
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Richard Portes
Robert Rasche
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V. Vance Roley
Harvey S. Rosen
Sherwin Rosen
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Ryuzo Sato
Myron S. Scholes
Anna J. Schwartz
Anne Scitovsky
Robert A. Shakotko
William Sharpe
Steven Shavell
Robert J. Shiller
John B. Shoven
William Silber
Christopher A. Sims
Kenneth Singleton
A. Michael Spence
Frank Stafford
Richard H. Steckel
Joseph E. Stiglitz
Lawrence H. Summers
Richard E. Sylla
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Paul J. Taubman
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Paul Wachtel
Kenneth W. Wachter
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Roger N. Waud
Thomas Weiss
Robert Willis
Charles Wilson
Larry T. Wimmer
David A. Wise
Jess B. Yawitz
Victor Zarnowitz
Richard Zeckhauser

McLure Named to Treasury Post

Charles E. McLure, Jr., a research associate in NBER's Program in Taxation and past vice president and executive director of the Bureau (1979–81) was appointed a Deputy Assistant Secretary of the Treasury effective October 24. McLure, who replaces J. Gregory Ballentine, will serve as chief economic advisor to the Assistant Secretary for Tax Policy.

Prior to this appointment, McLure was a senior fellow of the Hoover Institution at Stanford University. From 1973–79 McLure was professor of economics and finance at Rice University. He has also served as a senior economist on the staff of the President's Council of Economic Advisers (1969–71) and has been a consultant on tax policy to the U.S. Treasury and Labor Departments, the World Bank, and the United Nations.

Summer Institute 1983

Over 200 economists from all over the world met in Cambridge during July and August for NBER's fifth Summer Institute. In July, members and guests of NBER's Program in Economic Fluctuations, directed by Robert E. Hall of Stanford University, held a conference on macroeconomics (see *NBER Reporter*, Summer 1983, for details). The macroeconomists also divided into two working groups: one, led by Fumio Hayashi of Northwestern University, focused on corporate investment; the other, organized by Robert G. King and Alan C. Stockman, University of Rochester, considered "What can be learned from open economies about aggregate supply?"

Members of NBER's Program in Taxation, led by David F. Bradford of Princeton University, met for one week in July. They focused on three areas: taxation in open economies, including questions of state, local, and international taxes, organized by Daniel J. Frisch of the University of Washington; tax analysis in an oligopolistic economy, chaired by Harvey S. Rosen and Michael L. Katz of Princeton University; and, taxation and finance, led by George M. Constantinides, University of Chicago.

Also in July, NBER's Program in Financial Markets and Monetary Economics, led by Benjamin M. Friedman of Harvard University, met with invited guests to discuss a variety of topics in the financial area. New research was presented in papers by Andrew B. Abel, Harvard University; Edward J. Kane, Ohio State University; Meir Kohn, Dartmouth College; Robert Rasche, Michigan State University; Roger N. Waud, University of North Carolina; and Jess B. Yawitz, Washington University. In addition, on July 21–22, the program held a conference featuring papers on interest rates and asset markets, monetary policy, and the government budget and deficits (see Summer 1983 *NBER Reporter* for details).

In August, the Program in International Studies, under the direction of William H. Branson of Princeton University, held a series of workshops and conferences. (The latter are described in some detail in the *Conferences* section of this issue of the *NBER Reporter.*) One group, organized by J. David Richardson, University of Wisconsin, considered problems of trade, growth, and structural change in various economies. A second section concerned with trade relations was chaired by Robert E. Baldwin, University of Wisconsin. Richard C. Marston, University of Pennsylvania, brought together economists interested in the international coordination of macroeconomic policies and, more generally, in international finance.

The labor studies program, whose director is Richard B. Freeman of Harvard University, divided its August meetings into three topics: compensation and the dynamics of the labor market, organized by Edward P. Lazear, University of Chicago; unionization, led by Freeman; and jointly with the productivity program, studies of labor productivity using microlevel data sets. A conference on minority youth unemployment (see *Conferences* section of this issue) was the culmination of the group's summer session.

Finally, NBER's Program in Productivity and Technical Change, directed by Zvi Griliches of Harvard University, met in workshops in both July and August. Ariel Pakes of Hebrew University organized sessions on the economics of technical change; Ernie Berndt of MIT brought together researchers on investment and productivity growth; and Griliches chaired sessions on the relationship between research and development and changes in productivity.

Most papers presented by NBER researchers at the Summer Institute will appear in NBER's Working Paper series. Their availability will be announced in this and subsequent issues of the *NBER Reporter* (see *Working Papers*).

Reprints Available

The following NBER Reprints, intended for nonprofit education and research purposes, are now available. (Previous issues of the *NBER Reporter* list titles 1-400 and contain abstracts of the Working Papers cited below.)

These reprints are free of charge to corporate associates and other sponsors of the National Bureau. For all others there is a charge of $1.50 per reprint to defray the costs of production, postage, and handling. Advance payment is required on orders totaling less than $10.00. Reprints must be requested by number, in writing, from: Reprint Series, National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138.

401. "Speculative Hyperinflations in Maximizing Models: Can We Rule Them Out?" by Maurice Obstfeld and Kenneth Rogoff, 1983 (NBER Working Paper No. 855)

402. "On Nonuniqueness in Rational Expectations Models: An Attempt at Perspective," by Bennett T. McCallum, 1983 (NBER Working Paper No. 684)

403. "The Efficiency Gains from Dynamic Tax Reform," by Alan J. Auerbach, Laurence J. Kotlikoff, and Jonathan Skinner, 1983 (NBER Working Paper No. 819)

404. "An Integrated View of Tests of Rationality, Market Efficiency, and the Short-Run Neutrality of Monetary Policy," by Andrew B. Abel and Frederic S. Mishkin, 1983 (NBER Working Paper No. 726)

405. "Capital Market Equilibrium with Personal Tax," by George W. Constantinides, 1983 (NBER Summer Institute Paper No. 80-4)

406. "Taxes and the User Cost of Capital for Owner-Occupied Housing," by Patric H. Hendershott and Joel Slemrod, 1983 (NBER Working Paper No. 929)

407. "The Allocation of Capital between Residential and Nonresidential Users: Taxes, Inflation, and Capital Market Constraints," by Patric H. Hendershott and Sheng Cheng Hu, 1983 (NBER Working Paper No. 718)

408. "Optimal Currency Diversification for a Class of Risk Averse International Investors," by Jorge Braga de Macedo, 1983 (NBER Working Paper No. 959)

409. "A Model of Stochastic Process Switching," by Robert P. Flood, Jr., and Peter M. Garber, 1983 (NBER Working Paper No. 626)

410. "Symmetry Restrictions in a System of Financial Asset Demands: Theoretical and Empirical Results," by V. Vance Roley, 1983 (NBER Working Paper No. 593)

411. "The Production and Inventory Behavior of the American Automobile Industry," by Olivier J. Blanchard, 1983 (NBER Working Paper No. 891)

412. "An Intertemporal Model of Saving and Investment," by Andrew B. Abel and Olivier J. Blanchard, 1983 (NBER Working Paper No. 885)

413. "Why Stopping Inflation May Be Costly: Evidence from Fourteen Historical Episodes," by Robert J. Gordon, 1982 (NBER Conference Paper No. 108)

414. "The Anatomy of Double-Digit Inflation in the 1970s," by Alan S. Blinder, 1982 (NBER Conference Paper No. 95)

415. "Energy Efficiency, User-Cost Change and the Measurement of Durable Goods Prices," by Robert J. Gordon, 1982 (NBER Working Paper No. 408)

416. "Explorations in the Gold Standard and Related Policies for Stabilizing the Dollar," by Robert E. Hall, 1982 (NBER Conference Paper No. 105)

417. "Modeling Alternative Solutions to the Long-Run Social Security Funding Problem," by Michael J. Boskin, Marcy Avrin, and Kenneth Cone, 1983 (NBER Working Paper No. 583)

418. "A Reexamination of Tax Distortions in General Equilibrium Models," by Don Fullerton and Roger H. Gordon, 1983 (NBER Working Paper No. 673)

419. "Minimum Hours Constraints and Retirement Behavior," by Alan L. Gustman and Thomas L. Steinmeier, 1983 (NBER Working Paper No. 940)

Bureau Books

The following volumes may be ordered directly from the University of Chicago Press, Order Department, 11030 South Langley Avenue, Chicago, IL 60628. Academic discounts of 10 percent for individual volumes and 20 percent for standing orders for *all* NBER books published by the University of Chicago Press are available to university faculty; orders must be sent on university stationery.

Triplett Volume Published in November

The Measurement of Labor Cost, volume 48 in NBER's Studies in Income and Wealth, edited by Jack E. Triplett, will be available in November at a price of $55. The result of a December 1981 conference, this work brings together new research of special interest to labor economists, statisticians, and advisors to government and industry; it is also a valuable reference for students of labor problems.

This volume's treatment of the measurement of costs relative to total costs of production focuses on the demand side—the employer's point of view—and studies employer behavior. An introductory essay by Triplett serves as a useful guide to current thought in the analysis of labor cost. Other papers provide insights into such problems as accounting for the nonwage elements of labor compensation, the effects of pension and other benefits, and the wage-measurement question raised by incomes policies. In addition, the volume includes valuable new data on actual labor costs in the United States.

Triplett is assistant commissioner of the Office of Research and Evaluation, U.S. Bureau of Labor Statistics.

Frenkel Volume Has December Release

Exchange Rates and International Macroeconomics, edited by Jacob A. Frenkel, will be available in December. This NBER conference volume addresses a wide range of issues in international economics; critical commentary by two prominent economists follows each chapter.

In the first section, Frenkel provides an overview of the volume and suggests issues for further research. Peter Isard, Richard Meese, and Kenneth Rogoff analyze the relative performance of existing empirical models of exchange rate determination; Lars P. Hansen and Robert J. Hodrick integrate a theory of markets for risky assets with traditional international monetary theory. In his paper, Peter R. Hartley analyzes and tests the hypothesis that expectations of exchange rate movements are formed rationally; Stanley W. Black studies ten industrial countries showing different emphases on internal versus external targets. Next, Guillermo Calvo provides a framework for the analysis of exchange rate policies for economies with staggered contracts; Paul R. Krugman examines the short- and long-term effects of oil price shocks on exchange rate dynamics. The study by J. Peter Neary and Douglas D. Purvis deals with the interaction of real adjustment in terms of resource allocation and exchange rate dynamics; Willem H. Buiter and Marcus M. Miller focus on the interaction of the dynamics of the real exchange rate and the output cost of reducing inflation.

Taken together, the papers provide sound evidence about real and monetary influences on exchange rates; they extend the kinds of behavior and institutional arrangements that can be incorporated into exchange rate models.

Frenkel, organizer of the conference and editor, is a research associate in NBER's Program in International Studies and David Rockefeller Professor of Economics at the University of Chicago.

Bodie/Shoven Volume in January

Financial Aspects of the United States Pension System, an NBER project report edited by Zvi Bodie and John B. Shoven, will be available in January 1984. This is the first of several NBER reports on pensions and should be valuable both to pension fund managers and to those who set policy for public and private pension funds.

An increasing share of the burden of providing retirement income now falls on employer-sponsored pension plans; these plans have important effects on the nation's stock of capital. This volume discusses the financial soundness of the private pension system of the United States, the rights and obligations of a corporate pension plan, the effect of taxes and other legislation on corporate pension policy, and the financial vulnerability of the elderly to inflation. Fifteen leading financial analysts address such questions as: What is the impact of inflation on the private pension system, and what are the effects of alternative indexing schemes? What role can the Social Security system play in the provision of retirement income? How well funded are corporate pension plans, and is a firm's unfunded pension liability fully reflected in the market value of its common stock?

Shoven is director and Bodie is a codirector of the NBER project on the economics of the U.S. pension system. Bodie is associate professor of finance and economics at Boston University School of Management. Shoven is professor of economics at Stanford University.

Kotlikoff/Smith Book This Winter

Pensions in the American Economy, an NBER monograph by Laurence J. Kotlikoff and Daniel E. Smith, will be released in January 1984. This book should become a standard reference on private, state, and local pension plans in the United States; it is intended for a broad audience ranging from the academic theorist to government or corporate pension managers to workers wishing to compare their benefits with those of other workers.

Using virtually all of the available government sources (including computerized data unavailable in print) and their own extensive surveys of pension plans from private industry and state and local governments, Kotlikoff and Smith present data covering 450,000 pension plans. A summarizing text accompanies the 475 tables to explain and highlight the information presented.

The picture that emerges of the "typical" plan and its significant variations is useful for all those with a financial stake in pensions. Important statistics on benefit formulas and their relative integration with Social Security, vesting and early retirement provisions, investment portfolios and their performance, and unfunded pension liabilities are all included in this work.

Kotlikoff is an NBER research associate and associate professor at economics at Yale University. Smith is a former research analyst at the Bureau.

Current Working Papers

Individual copies of NBER Working Papers are available free of charge to corporate associates and other supporters of the National Bureau. Others can receive copies of the Working Papers by sending $1.50 per copy to Working Papers, National Bureau of Economic Research, 1050 Massachusetts Avenue, Cambridge, MA 02138. Please make checks payable to the National Bureau of Economic Research, Inc.

Journal of Economic Literature (JEL) subject codes, when available, are listed after the date of the Working Paper. Abstracts of all Working Papers issued since June 1983 are presented below. For previous Working Papers, see past issues of the *NBER Reporter*. The Working Papers are intended to make results of NBER research available to other economists in preliminary form to encourage discussion and suggestions for revision before final publication. Working Papers are not reviewed by the Board of Directors of NBER.

Real Determinants of Corporate Leverage

Alan J. Auerbach
Working Paper No. 1151
June 1983

The U.S. corporate tax distorts the behavior of both real and financial decisions. With respect to the former, the variation in depreciation allowances and investment tax credit provisions across types of investments leads to widely varying effective tax rates, especially since 1981. Financial policy is distorted by the differential treatment of debt and equity. The purpose of this paper is to examine, using firm-level panel data, the relationship between real and financial decisions by corporations, in part to determine the extent to which these biases offset or reinforce each other.

My results are tentative and suggest that patterns of real and financial behavior are only partially consistent with predictions of various capital structure models (for example, bankruptcy/agency cost, limited tax shield) and that there is no obvious offset on the financial side to the tax bias against investment in structures.

The Dynamic Effects of Tax Law Asymmetries

Alan J. Auerbach
Working Paper No. 1152
June 1983

Under current U.S. tax law, a distinction is made between gains and losses by businesses. Losses that must be "carried forward" are subject to two penalties: a loss of interest, and expiration after fifteen years. Previous examinations have focused on the higher expected tax payments that such a tax system, without "full loss offset," imposes on risky projects.

This paper presents a dynamic analysis of the impact of taxation on investment when gains and losses are treated asymmetrically. The results provide a basis for analyzing recent tax changes, particularly the controversial "safe-harbor leasing" provisions of the 1981 tax legislation.

Inflation and Labor Market Adjustment

Daniel S. Hamermesh
Working Paper No. 1153
June 1983

This paper examines the implications of downward nominal and ex ante real wage rigidity, and of wage contracting, for the dispersion of relative wage changes in the presence of price inflation. Rigidity implies that unexpected inflation will raise the variability of relative wage changes; contracting implies that unexpected inflation reduces variability. I study these hypotheses using data on manufacturing industries for 1955–81, and on private nonfarm industries for 1965–81. The dispersion in relative wage changes is reduced by greater price inflation. Most of the reduction is a response to unexpected inflation: expected inflation has little impact on dispersion. These findings hold for subperiods within the sample and are robust to different choices of measures of price expectations, including those of the Livingston survey, the Survey Research Center household data, and ARMA forecasts. They stand in striking contrast to the commonly accepted result that price inflation is associated with greater dispersion of relative price changes. They suggest that inflation reduces the ability of relative wages to signal disequilibriums among labor markets.

Moral Hazard and Optimal Commodity Taxation

Richard J. Arnott and **Joseph E. Stiglitz**
Working Paper No. 1154
June 1983
JEL No. 323

The central result of this paper is that when moral hazard is present, competitive equilibrium is almost always (constrained) inefficient. Moral hazard is a generic phenomenon that occurs whenever the provision of insurance, whether explicit or implicit, affects the probability(ies) of the insured-against event(s). The classic papers in the literature include Arrow (1965), Spence and Zeckhauser (1971), Pauly (1974), and Mirrlees (1975).

Moral hazard causes shadow prices to deviate from market prices. To remedy this market failure, the government could introduce differential taxation of commodities. Moral hazard also causes people to take too little care to prevent accidents. The corresponding deadweight loss can be reduced by subsidizing (taxing) those goods whose consumption encourages (discourages) accident avoidance. At the (constrained) optimum, the sum of the deadweight losses associated with moral hazard, on the one hand, and differential taxation of commodities, on the other, is minimized.

The Distributional Impact of Social Security

Michael D. Hurd and **John B. Shoven**
Working Paper No. 1155
June 1983

In the first part of the paper, we report estimated transfers in the Social Security system for the Retirement History Survey sample. We define transfers to be the difference between the expected present value of benefits and the present value of taxes paid in, where the latter is adjusted for the probability of living to retirement age. Unlike previous researchers, we therefore account for the taxes paid by people who died before retirement; it turns out that this adjustment is important for some groups. The Retirement History Survey cohort will receive large transfers: roughly, benefits will be about four times taxes, and the real internal rate of return will be about 8 percent. We study how transfers vary by a comprehensive measure of wealth. People in the highest wealth quartile have the largest absolute transfers, and their internal rate of return is as high as that of any wealth quartile.

In the second part of the paper, we study transfers for six synthetic cohorts, whose heads are age 65 in the ten-year intervals 1970 through 2020. Within each cohort, twelve families are defined according to earnings levels. We find that transfers are positive and large for the 1970 cohort, and that they decline steadily until they are negative for most groups in the 2020 cohort. Although high earners initially have the largest transfers in the 1970 cohort, they have the largest negative transfers in the 2020 cohort.

The Economics of Price Scissors

Raaj Kumar Sah and **Joseph E. Stiglitz**
Working Paper No. 1156
June 1983
JEL No. 323

We analyze the consequences, for capital accumulation and for the welfare of workers in different sectors, of changing the terms of trade between agriculture and industry. This issue was central to Soviet industrialization debate and it remains important in today's developing world. Through a simple general equilibrium model, we show that a price squeeze on peasants increases accumulation (as Preobrazhensky argued), but it makes both urban and rural workers worse off (contrary to Preobrazhensky's contention). The desirable changes in terms of trade are shown to depend on intertemporal valuations but, within a range, do not depend on rural-urban welfare trade-off. Our characterization of the optimal terms of trade is remarkably simple; the role of welfare weights and of relevant empirical parameters is easily ascertained. We then extend our analysis to economies with labor mobility and unemployment and, using a simple model with rigid industrial wage, show that the optimal terms of trade entail a tax on urban sector, a subsidy to rural sector, and a level of urban employment such that the urban wage exceeds the marginal product of the urban worker.

Financial Innovation and the Control of Monetary Aggregates: Some Evidence from Canada

Robert F. Lucas
Working Paper No. 1157
June 1983
JEL Nos. 310, 130

This paper presents an empirical test of the proposition that control of a monetary aggregate will generate

a rise in its velocity. The test is carried out using the Canadian experience of controlling M1 growth from 1975:3 to 1982:3. Section 1 of the paper presents evidence of the instability of the Canadian demand for M1 money since 1975:3. Section 2 develops a specific form of the proposition, emphasizing the role of asset substitution between classes of chartered bank deposits. I derive an equation for relative asset demand from a wealth maximization model subject to a constraint on technological transactions, and this equation is estimated from 1961 through 1982. The results lend support to the proposition that central bank control of M1 generated a rise in M1 velocity.

Raids and Imitation

Edward P. Lazear
Working Paper No. 1158
June 1983

Many job changes occur without intervening spells of unemployment. I construct a model in an attempt to understand this phenomenon. It implies that the best workers are hired away first because, with imperfect information, prices do not adjust fully for quality. Thus, there develops a stigma associated with failing to receive outside offers. The force of the stigma, which affects wages, depends upon the likelihood of discovering a worker's ability, the size of the market, and the speed of diffusion of information. In some occupations, it implies that there quickly develop pronounced differences in the treatment of raided and unraided workers. A consequence is a theory of occupational wage dispersion. The "Peter Principle"—that workers are promoted to a level of incompetence—is a direct implication. The model also can be applied to product markets to explain the relationship between price and time on the shelf.

Case Mix, Costs, and Outcomes: Differences between Faculty and Community Services in a University Hospital

Victor R. Fuchs
Working Paper No. 1159
June 1983
JEL No. 913

In order to gain insight into the possible consequences of prospective payment for university hospitals, we studied 2025 admissions to the faculty and community services of a university hospital, measuring differences in case mix, costs, and outcomes. The faculty service case mix was disproportionately weighted toward the more costly diagnoses, but even after adjustment for diagnosis-related groups (DRGs), costs were 11 percent higher on the faculty service. The differential was proportionately greater for diagnostic costs than for routine or treatment costs, and the differential was particularly large (70 percent) for patients with a predicted probability of death (DTHRISK) of .25 or greater.

The in-hospital mortality rate was appreciably lower on the faculty service after adjustment for case mix and patient characteristics. The mortality differential between the two services was particularly large for patients in the high death risk category.

Comparison of a matched sample of 51 pairs of admissions from the high death risk category confirmed the above results with respect to costs and in-hospital mortality, but follow-up revealed that the mortality rates were equal for the two services at nine months after discharge.

A Linearized Version of Lucas's Neutrality Model

Bennett T. McCallum
Working Paper No. 1160
June 1983
JEL Nos. 023, 131, 311

A model developed in Robert Lucas's influential "Expectations and the Neutrality of Money" has not been widely used for extensions or modifications of the original analysis, in part because of the difficulty of manipulating it. This paper describes a linearized version that, unlike other models prominent in the rational expectations literature, retains the original's main features yet is comparatively easy to manipulate. Two examples of modifications facilitated by this linearization are included. These involve an autoregressive money growth specification and the assumption of lump-sum (rather than proportional) monetary transfers.

Housing Subsidies: Effects on Housing Decisions, Efficiency, and Equity

Harvey S. Rosen
Working Paper No. 1161
June 1983
JEL No. 323

This paper surveys the effects of two of the most important federal policies toward housing: the "implicit

subsidy" for owner-occupied housing in the income tax code, and the provision of housing for low-income families at rents below cost. The emphasis is on the methodological problems that arise in attempts to assess the efficiency and distributive implications of these programs.

Section 1 critically discusses the rationalization for a government housing policy. Section 2 investigates the econometric problems associated with estimating the effects of government policy upon housing decisions. The federal tax treatment of owner occupation and how it affects the cost and demand for homeownership are discussed in Section 3. In Section 4, the positive and normative implications of U.S. policies for low-income housing are evaluated.

The conclusion notes that the policies under concern have led to a greater-than-efficient amount of housing consumption and have on net probably led to a more unequal distribution of income.

On Low-Frequency Estimates of "Long-Run" Relationships in Macroeconomics

Bennett T. McCallum
Working Paper No. 1162
June 1983
JEL Nos. 211, 130, 023

A number of recent studies have attempted to test propositions concerning "long-run" economic relationships by means of frequency-domain, time-series techniques that concentrate attention on low-frequency comovements of variables. This paper emphasizes that many of these propositions involve expectational relationships that are not inherently related to specific frequencies or periodicities. Thus the association of low-frequency, time-series test statistics with long-run economic propositions is not generally warranted. That such an association can be misleading is demonstrated by analysis of examples taken from notable papers by Geweke, Lucas, and Summers.

Variable Earnings and Nonlinear Taxation

Robert Moffitt and **Michael Rothschild**
Working Paper No. 1163
June 1983
JEL Nos. 323, 810

We explore the interaction between two facts. The first is that income is variable; the second is that the tax and transfer system transforms before-tax income into aftertax income in highly nonlinear ways. The effect is to penalize (and reward) income variability in a manner that is both substantial and capricious.

Unionism, Price-Cost Margins, and the Return to Capital

Richard B. Freeman
Working Paper No. 1164
July 1983

For the purpose of determining the effect of unionism on profits, this paper examines available industry data on two profitability measures: the price-cost margin and the ratio of quasi-rents to capital. I find that unionism reduces profitability and that this effect occurs in highly concentrated industries. The effect of unionism is quite substantial in most calculations, suggesting that the fraction organized in a sector be included in the future in standard profitability calculations for industrial organization.

The Equilibrium Approach to Labor Markets

Sherwin Rosen
Working Paper No. 1165
July 1983

This paper exposits the modern theory of equalizing differences, viewed as optimal assignments of workers to jobs. The basic ideas are first illustrated in a simple model with binary choices of work attributes; then multinomial choices are considered briefly. The paper stresses empirical implications, with special emphasis on elements of selectivity and stratification by tastes and technology. I sketch applications for certain aspects of the economics of discrimination, human capital, the value of safety, and the theory of implicit contracts. I also discuss issues raised by assignment stratification according to worker traits and productivities and outline the principle-sorting model by comparative advantage. The implied valuation system on personal traits and its relationship to factor-analytic models, as well as selectivity issues in educational and occupational choice, illustrate this aspect of the theory.

International Policy Coordination in a Dynamic Macroeconomic Model

Jeffrey Sachs
Working Paper No. 1166
July 1983
JEL Nos. 133, 431

This paper illustrates the role for coordination of macroeconomic policy when interdependent econo-

mies are pursuing disinflationary policies. Under flexible exchange rates, policymakers have an incentive to reduce inflation by pursuing contractionary policies that yield a currency appreciation. In a Nash, perfect-foresight equilibrium, policy authorities in the model pursue contractionary policies to achieve currency appreciation, but these attempts cancel out, with the result that all countries end up pursuing excessively contractionary policies (relative to a symmetric Pareto optimum). The paper presents these results in a two-country, infinite-horizon difference game.

The Level and Volatility of Interest Rates in the United States: The Roles of Expected Inflation, Real Rates, and Taxes

John H. Makin and **Vito Tanzi**
Working Paper No. 1167
July 1983
JEL Nos. 311, 313, 321

This paper looks at the need to expand the simple Fisherian view that largely explains changes in interest rates by changes in expected inflation. We present and test a model of the behavior of expected, aftertax real interest rates; with a group of explanatory variables suggested by a structural model, our model takes full account of the implications of a broad range of U.S. tax code provisions for the behavior of interest rates. We also investigate determinants of interest rate volatility.

The model and the results of empirical tests suggest: (1) why the measured impact on interest rates of changes in anticipated inflation has been below levels anticipated by many investigators; (2) how the measured impact on interest rates of explanatory variables is conditional on tax rates that may change over time; (3) that larger-than-expected fiscal deficits have a moderate positive impact on interest rates (for three-month Treasury bills, 40 basis points per $100 billion annual rise) while lower-than-expected money growth may also rise (in the second quarter of 1981 by an estimated 24 basis points); (4) that inflation uncertainty has no significant impact on interest rates because of the econometric effect of including a measure of excess capacity; (5) that an unexpected rise in money demand may be responsible for persistently higher rates during the first half of 1982, but during most of 1960-82, money supply shocks had a more powerful impact on interest rates than did money demand.

Housing Tenure, Uncertainty, and Taxation

Harvey S. Rosen, Kenneth T. Rosen, and **Douglas Holtz-Eakin**
Working Paper No. 1168
July 1983
JEL No. 323

Modern empirical work on the choice between renting and owning focuses on the concept of the "user cost" of housing, which integrates into a single measure the various components of housing costs. The standard approach implicitly assumes that households are certain of the user cost of housing. However, the ex post user cost measure varies substantially over time, and it is highly unlikely that individuals believe that they can forecast these fluctuations with certainty. In this paper, we construct and estimate a model of tenure choice that explicitly allows for the effects of uncertainty. The results suggest that previous work that ignored uncertainty may have overstated the effects of the income tax system upon the tenure choice.

Changes in the Balance Sheet of the U.S. Manufacturing Sector, 1926-77

John H. Ciccolo, Jr. and **Christopher F. Baum**
Working Paper No. 1169
July 1983
JEL No. 520

This paper reports on the results of a research project involving the collection and organization of income account and balance sheet data at the firm level for 1926-77. The primary data source for the study is *Moody's Industrial Manual.* Working at the firm level, it is possible to obtain accurate information on the market values of traded securities.

We present and discuss here some of the aggregate characteristics of the data set and the results of estimating a simple portfolio model that attempts to explain changes in firm balance sheet flows for 1927-35 and 1965-77.

Wage Indexation and Exchange Market Intervention in a Small Open Economy

Stephen J. Turnovsky
Working Paper No. 1170
July 1983
JEL No. 431

The analysis in this paper stresses the interdependence between wage indexation on the one hand and

exchange market intervention on the other, as tools of macroeconomic stabilization policy in a small open economy subject to stochastic disturbances. I show how the choice of either policy instrument impinges on the effectiveness of the other. In particular, if the domestic money wage is fully indexed to some weighted average of the domestic and foreign price levels, then, irrespective of the chosen weight, exchange market intervention is rendered totally ineffective in terms of stabilization of the real part of the domestic economy. Likewise, if the monetary authority intervenes in the exchange market to exactly accommodate nominal movements in the demand for money, thereby rendering the excess demand for money dependent upon only real variables, then any form of wage indexation is totally ineffective for the stabilization of the real part of the system. In either polar case, the respective instrument can stabilize the domestic price level. I also consider alternative combinations of policy for the stabilization of domestic and foreign disturbances.

Consensus and Uncertainty in Economic Prediction

Victor Zarnowitz and **Louis Lambros**
Working Paper No. 1171
July 1983
JEL No. 132

The usual practice in economic forecasting is to report point predictions without specifying the attached probabilities. Periodic surveys of such forecasts produce group averages, which are taken to indicate the "consensus" of experts. Measures of the dispersion of individual forecasts around these averages are interpreted as indicating "uncertainty."

However, consensus is best defined as the degree of agreement among the corresponding point predictions reported by different forecasters, while uncertainty is properly understood as referring to the diffuseness of the distributions of probabilities that individual forecasters attach to the different possible values of an economic variable. The NBER/ASA quarterly economic outlook surveys provide unique information on probabilistic forecast distributions reported by a large number of individuals for changes in GNP and the implicit price deflator in 1969-81. These data permit comparisons of related point and probability forecasts from the same sources.

The matched mean point forecasts and mean probability forecasts are found to agree closely. Standard deviations of point forecasts are generally smaller than the mean standard deviations of the predictive probability distributions for the same targets. Thus the former tend to understate uncertainty as measured by the latter. This is particularly so for short horizons.

LDCs' Foreign Borrowing and Default Risk: An Empirical Investigation, 1976-80

Sebastian Edwards
Working Paper No. 1172
July 1983
JEL Nos. 430, 441

This paper investigates to what extent the international financial community takes into account the risk characteristics of borrowing when granting loans to less developed countries (LDCs). Specifically, this study analyzes the determinants of the spread between the interest rate charged to a particular country and the London Interbank Borrowing Rate (LIBOR). The empirical analysis uses data on 727 public and publicly guaranteed Eurodollar loans granted to 19 LDCs between 1976 and 1980. The results show that lenders in Eurocredit markets have tended to take into account (some of) the risk characteristics of borrowers. In particular, the level of the spread is positively related to the debt/GNP ratio and the debt service ratio. On the other hand, the spread is negatively related to the international reserves-to-GNP ratio and the propensity to invest. The results also show that an increase in the foreign debt, coupled with an equivalent increase in international reserves, will tend to leave the perceived probability of default unaffected. The empirical analysis also indicates that as late as 1980 the international financial community had not perceived any significant increase in the probabilities of defaulting in the countries that eventually ran into serious debt problems (that is, Argentina, Brazil, Mexico).

Exchange Rate Dynamics with Sluggish Prices under Alternative Price-Adjustment Rules

Maurice Obstfeld and **Kenneth Rogoff**
Working Paper No. 1173
August 1983
JEL No. 431

This paper studies exchange rate behavior in models with moving long-run equilibriums incorporating alternative price-adjustment mechanisms. The paper demonstrates that price-adjustment rules proposed by Mussa and by Barro and Grossman yield models that are empirically indistinguishable from each other. For speeds of goods-market adjustment that are "too fast," the Barro-Grossman rule appears to induce instability; but we argue that when the rule is interpreted properly, models incorporating it are dynamically stable regardless of the speed at which disequilibrium is eliminated. The Barro-Grossman pricing scheme is shown to be a natural generalization, to a setting of moving long-run equilibriums, of less versatile schemes proposed in earlier literature on exchange rate dynamics.

International Trade, Foreign Investment, and the Formation of the Entrepreneurial Class

Gene M. Grossman
Working Paper No. 1174
August 1983
JEL Nos. 411, 422, 112

In this paper I examine the argument that free trade may be harmful to less developed countries, because such international competition inhibits the formation of a local entrepreneurial class. I view the entrepreneur as the manager of the industrial entreprise, as well as the agent who bears the risks associated with industrial production. This paper develops a two-sector model of a small open economy in which the size of the entrepreneurial class is endogenous.

I show that the entrepreneurial class is smaller under free trade than would be first-best optimal in the presence of efficient risk-sharing institutions such as stock markets. Nonetheless, there are potential gains from trade, and any protectionist policy that increases the number of entrepreneurs will have deleterious welfare consequences.

The Implications of an Endogenous Money Supply for Monetary Neutrality

Robert G. King and **Bharat Trehan**
Working Paper No. 1175
August 1983
JEL Nos. 130, 310

This paper examines the implications of an endogenous money supply for the perceived (by econometricians) and actual nonneutrality of money in rational expectations models of the class put forward by Lucas (1972, 1973) and Barro (1976, 1980) that stress incomplete information. First, if there is contemporaneous policy response (for example, to interest rates), then a simultaneous equation bias produces inconsistency in tests that use contemporaneous monetary statistics such as those proposed by King (1981) and Boschen-Grossman (1983). Thus, an econometrician might erroneously conclude that money is nonneutral in a fully classical model. Second, if money acts as a "signal" about economic conditions, then autonomous (policy-induced) changes in the money stock can have real effects. In contrast to the nonneutrality of money in the Lucas-Barro analysis, which arises as the result of incomplete information about monetary aggregates, this nonneutrality requires that monetary information be utilized by economic agents.

Optimal Stock Trading with Personal Taxes: Implications for Prices and the Abnormal January Returns

George M. Constantinides
Working Paper No. 1176
August 1983

The tax law confers upon the investor a timing option—to realize capital losses and defer capital gains. With the tax rate on long-term capital gains and losses being about half the short-term rate, the tax law provides a second timing option—to realize capital losses in the short term and realize capital gains in the long term, if at all. Our theory and simulation with actual stock prices over the 1962–77 period establish that the second timing option is extremely valuable: Taxable investors should realize their long-term capital gains in high-variance stocks and repurchase the same or similar stock, in order to reestablish the short-term status and realize potential future losses in the short term.

Tax trading does not explain the positive abnormal returns of small firms. In the presence of transactions costs, tax trading predicts that the volume of tax-loss selling increases from January to December and ceases in the first few days of January. The trading-volume seasonal maps into a stock-price seasonal only if tax-loss sellers are assumed to be irrational or ignorant of the price seasonality.

A Theory of Current Account and Exchange Rate Determinations

Joshua Aizenman
Working Paper No. 1177
August 1983
JEL No. 430

The purpose of this paper is to construct a two-period, two-country model that derives the current account, the exchange rate, the terms of trade, and real interest rates from optimal behavior principles. I do this by constructing a model that uses money mainly as a means of exchange, where the technology of exchange is flexible because of potential substitutability of time and real balances as a means of coordinating transactions. The discussion results in a framework that integrates elements of net saving theories and the monetary approach into a unified structure, in which the two approaches are complementary viewpoints.

A Model of Exchange Rate Determination with Policy Reaction: Evidence from Monthly Data

William H. Branson
Working Paper No. 1178
August 1983
JEL No. 431

This paper integrates exchange rate policy into a model of exchange rate behavior and examines the monthly data from the 1970s econometrically to infer hypotheses about policy behavior. It focuses on four major currencies—the U.S. dollar, the deutschemark, sterling, and the Japanese yen—and analyzes movements in their effective (weighted) exchange rates as calculated by the IMF.

First, I construct a model of market determination of a floating exchange rate. It shows how unanticipated movements in money, the current account, and relative price levels will first cause a jump in the exchange rate and then a movement along a "saddle path" to the new equilibrium. Here the role of "news" in moving the exchange rate is clear. The model emphasizes imperfect substitutability between domestic and foreign bonds. Next, I introduce exchange rate policy and analyze the options available to the central bank that wants to reduce the jump in the exchange rate following a real or monetary disturbance—"news" about the current account, relative prices, or money. This is the policy characterized as "leaning against the wind" in Branson (1976). I make the distinction between monetary policy and sterilized intervention.

Systems of vector autoregressions (VARs) are estimated on monthly data for each of the countries, and the correlations among their residuals are studied. These represent the "innovations," or "news," in the time series. A clear pattern emerges in these correlations, in which policy in the United States and Japan drives exchange rates, and policy in Germany and the United Kingdom reacts by moving interest rates and by sterilized intervention. This is essentially the same result that appeared on the quarterly data in Branson (1983). Thus the analyses tend to reinforce each other; both data sets tell basically the same story.

Public Sector Labor Markets

Ronald G. Ehrenberg and **Joshua L. Schwarz**
Working Paper No. 1179
August 1983
JEL No. 820

This paper provides a critical survey of the literature dealing with public sector labor markets. It discusses the research by economists on wage determination in the state and and local sectors (including the effects of unions), on the estimation of compensating wage differentials for pecuniary and nonpecuniary job characteristics, on the effects of unions on productivity, on the estimation of public sector demand and for labor functions, on dispute resolution, on public/private pay differentials, and on gender and race discrimination in the public sector. We offer numerous suggestions for future research.

An Investigation of Risk and Return in Forward Foreign Exchange

Robert J. Hodrick and **Sanjay Srivastava**
Working Paper No. 1180
August 1983
JEL No. 431

This paper examines the determination of risk premiums in foreign exchange markets. The statistical model is based on a theoretical model of asset pricing, which leads to severe cross-equation constraints. Statistical tests lead to a rejection of these constraints. We examine the robustness of these tests to time variation in parameters and to the presence of heteroskedasticity. We find that there is evidence for heteroskedasticity and that the conditional expectation of the risk premium is a nonlinear function of the forward premium. Accounting for this nonlinearity, the specification appears to be time invariant. Out-of-sample portfolio speculation is profitable but risky.

Monetary Policy Regimes, Expected Inflation, and the Response of Interest Rates to Money Announcements

V. Vance Roley and **Carl E. Walsh**
Working Paper No. 1181
August 1983
JEL Nos. 311, 313

This paper examines the response of the term structure of interest rates to weekly money announcements. We first present estimated responses for both the pre- and post-October 1979 periods. Then we formally specify two competing hypotheses involving the policy anticipations and expected inflation effects and compare them to the estimated responses. Both hypotheses are found to be inconsistent with the responses, but they have sharply different implications about the Federal Reserve's short-run monetary policy. The expected inflation hypothesis implies that weekly money surprises

should have persistent effects on the level of the money stock, reflecting shifts in the Federal Reserve's long-run target. In contrast, the policy anticipations hypothesis implies that the effect of money surprises should diminish over time, reflecting the Federal Reserve's desire to offset deviations from target. Additional empirical results reported in the paper support this latter description of the money stock process.

Macroeconomic Planning and Disequilibrium: Estimates for Poland: 1955-80

Richard Portes et al.
Working Paper No. 1182
August 1983

This paper specifies and estimates a four-eqation disequilibrium model of the consumption goods market in a centrally planned economy (CPE). The data are from Poland for 1955-80, but the analysis is more general and will be applied to other CPEs as soon as the appropriate data sets are complete. The work is based on previous papers of Portes and Winter (P-W) and Charemza and Quandt (C-Q). P-W applied to each of four CPEs a discrete-switching disequilibrium model with a household demand equation for consumption goods, a planners' supply equation, and a "min" condition stating that the observed quantity transacted is the lesser of the quantities demanded and supplied. C-Q considered how an equation for the adjustment of planned quantities could be integrated into a CPE model with fixed prices and without the usual price adjustment equation. They made plan formation endogenous and permitted the resulting plan variables to enter the equations determining demand and supply. This paper implements the C-Q proposal in the P-W context. It uses a unique new data set of time series for plans for the major macroeconomic variables in Poland and other CPEs. The overall framework is applicable to any large organization that plans economic variables.

Arbitrator Decision-Making: When Are Final Offers Important?

Max H. Bazerman and **Henry S. Farber**
Working Paper No. 1183
August 1983

Understanding the process by which arbitrators make decisions is central to understanding the effect of arbitration schemes on the process of collective bargaining. We develop a model of arbitrator behavior in conventional arbitration that allows the arbitration award to be a function of both the offers of the parties and the (exogenous) facts of the case. The weight that the arbitrator puts on the facts relative to the offers is hypothesized to be a function of the quality of the offers as measured by the difference between them. We then derive two special cases of this model: (1) the arbitrator bases the award strictly on the offers of the parties (split-the-difference); and (2) the arbitrator bases the award strictly on the facts of the case.

We empirically implement the model using data gathered from practicing arbitrators regarding their decisions in 25 hypothetical cases. These data have the advantage of allowing for causal inference regarding the effect on the arbitration award of the facts relative to the offers. On the basis of the estimates, both of the special case models are strongly rejected. The arbitration awards are found to be influenced by both the offers of the parties and the facts of the case. In addition, the weight put on the facts of the case relative to the offers is found to vary significantly with the quality of the offers. When the offers are of low quality (far apart) the arbitrator weights the facts more heavily and the offers less heavily.

The results suggest that the naive, split-the-difference view of arbitrator behavior, which is the basis of the critique of conventional arbitration that has led to the adoption of final-offer arbitration, is not correct in its extreme view. On the other hand, the awards *are* affected by the offers so that the parties can manipulate the outcome to some extent by manipulating their offers. However, the scope for this sort of influence is limited by the finding that the offers are weighted less heavily as their quality deteriorates.

Optimal Bond Trading with Personal Taxes: Implications for Bond Prices and Estimated Tax Brackets and Yield Curves

George M. Constantinides and
Jonathan E. Ingersoll, Jr.
Working Paper No. 1184
August 1983

The assumption that bondholders follow either a buy-and-hold or a continuous realization trading policy, rather than the optimal trading policy, is at variance with reality and, as we demonstrate, may seriously bias the estimation of the yield curve and the implied tax bracket of the marginal investor. Tax considerations that govern a bondholder's optimal trading policy include the following: (1) realization of capital losses, short term if possible; (2) deferment of the realization

of capital gains, especially if they are short term; (3) changing the holding period status from long term to short term by sale of the bond and repurchase, so that future capital losses may be realized short term; and (4) raising the basis through sale of the bond and repurchase in order to deduct the amortized premium from ordinary income. Because of the interaction of these factors, no simple characterization of the optimal trading policy is possible. We can say, however, that the optimal trading policy differs substantially from the buy-and-hold policy irrespective of whether the bondholder is a bank, a bond dealer, or an individual. We obtain these strong results even when we allow for transactions costs and explicitly consider numerous IRS regulations designed to curtail tax avoidance.

Stagflation and the Productivity Decline in Canada, 1974-82

John F. Helliwell
Working Paper No. 1185
August 1983
JEL Nos. 226, 723, 132

The MACE model of Canada employs a nested production structure in which there is a vintage bundle of capital and energy, combined with efficiency units of labor, to define potential output for given quantities of employed factors. The actual level of output is derived from an estimated utilization-rate equation, in which the ratio of actual to potential output depends on unexpected sales, profitability, and the gap between actual and desired inventories. Using this production structure, it is possible to attribute 30 percent of the decline in labor productivity between 1973 and 1982, relative to a steady growth case, to desired substitution of labor for energy; 33-1/3 percent to unexpectedly low demand; and 20 percent to low profitability. The macroeconomic structure of the model is then used to trace the underlying reasons for the differences between steady growth and actual history. I conclude that most of the changes in factor proportions, demand, and profitability in Canada were the result of the changes in world oil prices and the parallel changes in inflation and real output in other industrial countries.

Risk, Inflation, and the Stock Market

Robert S. Pindyck
Working Paper No. 1186
August 1983

Most explanations for the decline in share values over the past two decades have focused on the concurrent increase in inflation. This paper considers an alternative explanation: a substantial increase in the riskiness of capital investment. I show that the variance of firms' real gross marginal return on capital has increased significantly, increasing the relative riskiness of investors' returns on equity, and that this can explain a large part of the market decline. I also assess the effects of increases in the mean and variance of the inflation rate, and a decline in firms' expected return on capital.

Capital Controls and Covered Interest Parity

Takatoshi Ito
Working Paper No. 1187
August 1983
JEL Nos. 310, 430

This paper examines covered interest parity between yen-denominated and dollar-denominated assets by considering rates on three-month Euroyen and Eurodollar deposits and the representative and comparable three-month interest rates in Japan and in the United States. One objective of this paper is to single out the portion of deviations from covered interest parity caused by capital controls imposed by the Japanese authority. To that end, I define new measures of gain from one-way arbitrage that take into account transactions costs associated with the bid-ask spread of exchange rates and the transactions tax on repurchase agreements, Gensaki, in Japan. According to my measure, covered interest has been holding, as theory predicts, in the Euromarket since 1977. The Euroyen market must have been thin in 1975 and 1976 to have experienced violations to parity. Using the one-way arbitrage measures between Gensaki in Japan and Eurodollar deposits, I detect capital controls imposed by the Japanese government between 1975 and 1980. After a new law was enacted in December 1980 that lifted most capital controls, covered interest parity has been holding between Gensaki and dollar-denominated assets.

The Spatial Mismatch Hypothesis: Are There Teenage Jobs Missing in the Ghetto?

David T. Ellwood
Working Paper No. 1188
August 1983

This paper examines the hypothesis that the extraordinarily high rates of unemployment among black youth can be linked to a geographic mismatch between their residences and the jobs that they might occupy. It examines Chicago's labor market in detail.

Black youth do in fact seem to live farther from jobs than white youth do. However, the differences are not great enough to generate large differences in employment rates unless geographic search costs are very high.

To explore the possible impact the differences really do have, I examine and estimate a wide variety of models. These models uniformly reject the hypothesis that a geographic mismatch is a major cause for black-white differences. Blacks who live near large concentrations of jobs seem to fare only slightly better than those who live far from such concentrations. In areas where whites and blacks live in proximity, the racial employment differences remain very large.

Theoretical Issues in International Borrowing

Jeffrey Sachs
Working Paper No. 1189
August 1983
JEL Nos. 431, 441

The current crisis in international lending points up a lesson learned several times in the past 150 years: that international loan markets function very differently from the textbook model of competitive lending. This paper discusses various extensions of the basic model. First, we amend the textbook model to show how limitations on a government's taxing authority may greatly affect its optimal borrowing strategy. Second, we explore the implications of a debtor country's option to repudiate debt. Third, we show that efficient lending may require collective actions by bank syndicates, and that a breakdown in collective action can result in serious inefficiencies and even financial panics.

The Economy of Israel

Stanley Fischer
Working Paper No. 1190
August 1983

This paper begins with a description of the salient features of the Israeli economy: (1) a large government sector (the government budget has absorbed more than 80 percent of GNP in some recent years); (2) high levels of defense spending; (3) a large deficit in the government budget; (4) a large deficit in the current account (about 20 percent of GNP); (5) triple-digit inflation; and (6) extensive indexation of both wages and long-term financial commitments. I then present a descriptive model that includes the particular asset menu of the Israeli economy and examine the properties of that model. I use the model to analyze aspects of the Israeli experience with inflation. The currency liberalization of 1977, which increased the access of Israelis to foreign assets, shares the responsibility for the high rate of inflation. Finally, I discuss the possibilities of ending the inflation.

Years of Service and Probability of Promotion

Katharine G. Abraham and **James L. Medoff**
Working Paper No. 1191
August 1983
JEL Nos. 825, 824

This study provides evidence, we believe, that challenges some conventional assumptions about the promotion process. Based on survey information collected from a large random sample of U.S. firms in the private sector, we reach two main conclusions. First, seniority independent of productivity appears to play a significant role even in nonunion promotion decisions. Second, the differences between union and nonunion promotion processes, at least with regard to the weight assigned to seniority per se, appear to be important but less dramatic than is popularly supposed.

International R and D Rivalry and Industrial Strategy

James A. Brander and **Barbara J. Spencer**
Working Paper No. 1192
August 1983
JEL No. 422

This paper presents a theory of government intervention that provides an explanation for policies of "industrial strategy" such and R and D or export subsidies in imperfectly competitive international markets. Each producing country has an incentive to try to capture a greater share of rent-earning industries using subsidies, but the subsidy-ridden international equilibrium is jointly suboptimal. The equilibrium in the strategic game involving firms and governments is modeled as a three-stage, subgame, perfect Nash equilibrium. The assumption that the government is the first player in this game allows it to influence equilibrium industry outcomes by altering the set of credible actions open to firms.

Trade Warfare: Tariffs and Cartels

James A. Brander and **Barbara J. Spencer**
Working Paper No. 1193
August 1983
JEL No. 422

National governments have incentives to intervene in international markets, particularly to encourage export cartels and to impose tariffs on imports from imperfectly competitive foreign firms. Although the optimal response to foreign monopoly is usually a tariff, a specific subsidy will be optimal if demand is very convex, as with demand of constant elasticity. If one considers ad valorem tariffs or subsidies, a subsidy is optimal if the elasticity of demand increases as consumption increases. The critical conditions in both ad valorem and specific cases hold generally for Cournot oligopoly. Noncooperative equilibrium of international policy will be characterized by export cartels and rent-extracting tariffs.

A "Reciprocal Dumping" Model of International Trade

James A. Brander and **Paul R. Krugman**
Working Paper No. 1194
August 1983
JEL No. 410

This paper develops a model in which the rivalry of oligopolistic firms serves as an independent cause of international trade. The model shows how much rivalry naturally gives rise to "dumping" of output in foreign markets and shows that such dumping can be "reciprocal"—that is, there may be two-way trade in the same product. We show that reciprocal dumping is possible for fairly general specification of firm behavior. The welfare effects of this seemingly pointless trade are ambiguous. On one hand, resources are wasted in the cross-handling of goods; on the other hand, increased competition reduces monopoly distortions. Surprisingly, in the case of free entry and Cournot behavior, reciprocal dumping is unambiguously beneficial.

Activist Monetary Policy and Exchange Rate Overshooting: The Deutschemark/Dollar Rate

David H. Papell
Working Paper No. 1195
August 1983
JEL No. 430

After a decade of generalized floating, bilateral exchange rates clearly exhibit more variability than economic aggregates—relative prices, incomes, and money supplies—that generally comprise the fundamentals of theories of exchange rate determination. Dornbusch's overshooting hypothesis is the best-known explanation of this phenomenon. This paper shows that accommodative monetary policy (with respect to prices) has the potential to cause the economy to switch from exchange rate overshooting to undershooting. Using constrained maximum-likelihood methods, I estimate the model for Germany and the United States. The results provide strong evidence in support of the overshooting hypothesis for the deutschemark/dollar exchange rate.

Optimal and Time-Consistent Exchange Rate Management in an Overlapping-Generations Economy

Jonathan Eaton
Working Paper No. 1196
August 1983
JEL No. 431

This paper analyzes the management of exchange rates in a simple overlapping-generations model. I use this framework to evaluate alternative policies in terms of their implications for the welfare of individuals in the economy. The analysis identifies two objectives of monetary policy, providing a desirable store of value and collecting seigniorage. When the chief concern is to provide a desirable store of value (as when the monetary authority's major constituency consists of the asset holders of the economy), a policy of fixing the exchange rate does better when shocks are primarily of domestic origin while floating becomes more desirable when foreign shocks predominate. When seigniorage concerns are paramount (as when the authority's constituency is the young generation), flexible rates do better. When seigniorage concerns are paramount and when the monetary authority cannot establish a reputation for conducting monetary policy in a way that makes the currency a desirable store of value, a national currency may not be viable in the absence of exchange controls. Such controls may be justified in this situation.

The Profitability of Currency Speculation

John F. O. Bilson and **David A. Hsieh**
Working Paper No. 1197
September 1983
JEL No. 431

This paper presents the results of a post-sample simulation of a speculative strategy that uses a portfolio of

forward contracts in foreign currency. The main new features of the strategy are: (1) the use of Kalman filters to update the forecasting equation; (2) the allowance for transactions, costs, and margin requirements; and (3) the endogenous determination of the leveraging of the portfolio. While the forecasting model tended to overestimate profit and underestimate risk, the strategy was still profitable over a three-year period and it was possible to reject the hypothesis that the sum of profits was zero. Furthermore, the currency portfolio was found to have an extremely low market risk. Combinations of the speculative currency portfolio with traditional portfolios of U.S. equities resulted in considerable improvements in risk-adjusted returns on capital.

A Technique for Indicating Comparative Costs and Predicting Changes in Trade Ratios

Robert E. Baldwin and **R. Spence Hilton**
Working Paper No. 1198
September 1983
JEL Nos. 411, 421

This paper estimates relative differences in factor prices (and thus differences in the comparative cost of industry) between the United States and each of eight country groups by relating differences in factor-use requirements and actual bilateral export/import ratios across industries. We also predict changes in industry export/import ratios (and test them against actual subsequent changes) by comparing these trade ratios with those expected on the basis of the estimated average differences in factor costs assuming that adjustment lags are the major reason for the differences between these ratios.

Slipping Into and Out of Poverty: The Dynamics of Spells

David T. Ellwood and **Mary Jo Bane**
Working Paper No. 1199
September 1983

This paper examines the dynamics of poverty. Previous analyses have either examined only fluctuations in the earnings of male heads (of household) or looked at the frequency of poverty periods over a fixed time frame. We argue that a more appropriate way to understand the dynamics of poverty is to define spells of poverty. Using this methodology we find that the majority of poor persons at any time are in fact in the midst of a rather long spell of poverty. The methodology also allows us to estimate the extent to which beginnings and endings of poverty spells are associated with changes in income or changes in family structure. Less than 40 percent of beginnings of poverty spells seem to be caused by a drop in the heads' earnings, while 60 percent of endings occur when the heads' earnings increase. As a result, we argue that to understand the causes and potential remedies for poverty, researchers must focus on decisions about household formation and on the behavior of so-called secondary family members.

Accumulation of Property by Southern Blacks before World War I: Comment and Further Evidence

Robert A. Margo
Working Paper No. 1200
September 1983
JEL No. 042

The pace and pattern of wealth accumulation by southern blacks in the period before World War I is of central importance to the historical evolution of black/white income differences. This paper extends recent work by Robert Higgs, who used data on assessed wealth for Georgia to study the temporal and cross-sectional variation in black wealth accumulation during the postbellum era. Using similar data for five additional states, I show that one of Higgs's principal conclusions—that blacks accumulated wealth, measured by tax assessments, more rapidly than whites—is a general finding, but that the cross-sectional determinants of black wealth appear to have varied markedly across states. I also consider issues of assessment-ratio bias and, using data for one state, I demonstrate that failure to account for intrastate and race differences in assessment ratios may bias the cross-sectional findings and significantly overstate the true relative (black/white) growth rate of black wealth.

Average Marginal Tax Rates for U.S. Household Interest and Dividend Income, 1954-80

Arturo Estrella and **Jeffrey C. Fuhrer**
Working Paper No. 1201
September 1983

This paper carefully outlines a method for the calculation of average marginal tax rates. The method is applied to data from *Statistics of Income* for dividend and interest income earned by U.S. households from 1954 to 1980. To illustrate the effects these data can have in empirical work, the tax rates are used in comparing the sample moments of before-tax and aftertax real yields on financial assets.

Forecasting and Conditional Projection Using Realistic Prior Distributions

Thomas Doan, Robert B. Litterman,
and **Christopher A. Sims**
Working Paper No. 1202
September 1983

This paper develops a forecasting procedure based on a Bayesian method for estimating vector autoregressions. We apply the procedure to ten macroeconomic variables and it improves out-of-sample forecasts relative to univariate equations. Although cross-variables responses are damped by the prior variables, considerable interaction among the variables is captured by the estimates.

We provide unconditional forecasts as of 1982:12 and 1983:3. We also describe how a model such as this can be used to make conditional projections and to analyze policy alternatives. As an example, we analyze a Congressional Budget Office forecast made in 1982:12.

While no automatic causal interpretations arise from models such as ours, they provide a detailed characterization of the dynamic statistical interdependence of a set of economic variables that may help in evaluating causal hypotheses without containing any such hypotheses themselves.

A Simple Account of the Behavior of Long-Term Interest Rates

John Y. Campbell and **Robert J. Shiller**
Working Paper No. 1203
September 1983
JEL No. 311

Recent empirical research on the term structure of interest rates has shown that the long-term interest rate is well described by a distributed lag on short-term interest rates but does not conform to the expectations theory of the term structure. It has been suggested that the long rate "overreacts" to the short rate. This paper presents a unified taxonomy on risk premiums, or deviations from the expectations theory. This enables the hypothesis of overreaction to be formally stated. We show that, if anything, the long rate has underreacted to the short rate. However, the independent movement of the long rate is primarily responsible for the failure of the expectations theory.

Rewards to Continued Work: The Economic Incentives for Postponing Retirement

Olivia S. Mitchell and **Gary S. Fields**
Working Paper No. 1204
September 1983
JEL No. 800

Using a new data file on pay and pensions, this paper presents and discusses new empirical evidence on how older workers' opportunities for income change as they age. It also develops a detailed description of private pension structures and the ways in which pensions reward deferred retirement. The data imply that the present discounted value of total lifetime income rises when people postpone retirement, but the size of the income increment varies with age. The data also show that some pension plans encourage early retirement while others penalize it.

A Test of Portfolio Crowding Out and Related Issues in Finance

Jeffrey A. Frankel
Working Paper No. 1205
September 1983

This paper tests hypotheses about the parameters of asset demand functions of investors. The most important hypothesis is that federal bonds are closer substitutes for equity than for money; this is associated with the hypothesis of "portfolio crowding out" by federal borrowing.

Previous regression studies of asset demand functions have not been able to obtain precise and plausible estimates of the parameters without imposing prior beliefs. This paper uses an MLE technique that dominates regression, making full use of the constraint that the parameters are not determined arbitrarily but rather by the investor's mean-variance optimization. The technique also dominates previous estimates of the optimal portfolio from ex post return data; expected returns are not assumed to be constant over time, nor to change slowly, but rather are allowed to fluctuate freely. Thus, the framework is consistent with questions such as the effects of a sudden increase in federal debt on the expected returns of the various assets.

I test some hypotheses in which the answer seems clear in advance, such as the negative effect of the supply of money on the expected rate of return on equities. There the results of the MLE technique are much more plausible than the regression results. In the most controversial case, a point estimate shows portfolio crowding *in*, not portfolio crowding out.

Economic Development, Infant Mortality, and Their Dynamics in Latin America

Tadashi Yamada
Working Paper No. 1206
September 1983
JEL No. 913

This paper studies infant mortality in Latin America in recent decades. In so doing, it must answer two questions: first, how large is the economic loss, in terms of net national product, resulting from mortality of children under the age of 15 and what are the major causes of such deaths? Second, has the decline in infant mortality been principally a product of economic development in Latin American countries?

Surprisingly enough, there is a significant variation in economic losses across Latin American countries, from 0.99 percent of the net national product in Uruguay to 18.93 percent in Haiti. In recent years, eleven of the nineteen countries in Latin America have had economic losses greater than 3 percent of their net national product, in marked contrast to those 1937 values found by Kuznets (1980) for Egypt (2.68 percent) and the Netherlands (0.17 percent).

Influenza and pneumonia, enteritis and other diarrheal diseases, and other infective and parasitic diseases account for one-third or more of total deaths for many Latin American countries. Knowing that the proportion of infant mortality is roughly about 20-30 percent of total deaths across the countries, I speculate that these diseases are exclusively responsible for the high mortality in childhood in Latin America.

The Granger-Sims dynamic system shows that economic development in Latin America does not strongly account for the behavior of the infant mortality rate in recent decades. Therefore, the empirical results seem to support the view that technological development in medicine and health is the major cause of the reduction in infant mortality rates in Latin American countries in recent decades. However, when economic development Granger-causes infant mortality, as observed for only two countries, the former becomes the main source of variation of the latter over long horizons.

Longitudinal Analyses of the Effects of Trade Unions

Richard B. Freeman
Working Paper No. 1207
September 1983

This paper examines how measurement error biases longitudinal estimates of union effects. It develops numerical examples, statistical models, and econometric estimates that indicate that measurement error is a major problem in longitudinal data sets, so that longitudinal analyses do not provide the research panacea for determining the effects of unionism (or other economic forces) that some have suggested. There are three major findings:

(1) The difference between the cross-section and longitudinal estimates is attributable in large part to random error of the measurement of who changes union status. Given modest errors of measurement, of the magnitudes observed, and a moderate proportion of workers changing union status, also of the magnitudes observed, measurement error biases downward estimated effects of unions by substantial amounts.

(2) Longitudinal analysis of the effects of unionism on nonwage and wage outcomes tends to confirm the significant impact of unionism found in cross-section studies, with the longitudinal estimates of both nonwage and wage outcomes lower in the longitudinal analysis than in the cross-section analysis of the same data set.

(3) The likely upward bias of cross-section estimates of the effect of unions and the likely downward bias of longitudinal estimates suggest that, under reasonable conditions, the two sets of estimates bound the "true" union impact posited in standard models of what unions do.

Recent Perspectives in and on Macroeconomics

Benjamin M. Friedman
Working Paper No. 1208
September 1983
JEL Nos. 311, 023

The experience of costly disinflation in the early 1980s has contradicted the central policy promise of the new classical macroeconomics just as sharply as the experience of accelerating inflation in the 1970s contradicted the chief promise of earlier thinking. Much of the attractive appeal of each approach rested on its holding out the prospect of successfully dealing with the foremost macroeconomic policy issue of its time—unemployment in the earlier case, and inflation more recently—without incurring the costs that previous thinking associated with effective solutions. Inflation did accelerate in the 1970s, however, and now the real economic costs of disinflation have proved remarkably in line with conventional estimates antedating the new classical macroeconomics. The implication of this unfortunate outcome is not, of course, simply to return to earlier approaches but to retain what is theoretically appealing about the methodology of the new classical macroeconomics in a form that does not lead to falsified policy conclusions.

Managing the U.S. Government Deficit in the 1980s

Benjamin M. Friedman
Working Paper No. 1209
October 1983
JEL Nos. 321, 311

In the absence of major policy changes, deficits in the federal government's budget will probably constitute a serious impediment to any increase in the U.S. economy's net rate of investment and may even depress it still further during the latter 1980s. The U.S. government's outstanding debt is now rising sharply in relation to gross national product, and, under either current legislation or the budget policies proposed by the Reagan Administration, it will continue to do so. This sustained upward movement of the government debt ratio will be unprecedented in U.S. peacetime experience. Because government debt and private-sector debt have historically moved inversely in relation to gross national product in the United States, a rising government debt ratio over time implies a sustained contraction of private debt relative to the size of the economy. This reduction in the relative debt position of the private sector in turn implies a constriction of its ability to finance investment in net new capital formation.

Using Monetary Control to Dampen the Business Cycle: A New Set of First Principles

Robert J. Gordon
Working Paper No. 1210
October 1983
JEL No. 311

This paper reviews the main characteristics of cyclical behavior in the postwar U.S. economy and reviews the arguments for and against an activist stabilization policy to dampen business cycles. Four major behavioral characteristics are identified from summary data on U.S. postwar business cycles. These involve: (1) the volatility of growth in velocity compared with that of money growth; (2) the inertia of inflation; (3) the natural rate of unemployment as a dividing line between conditions of accelerating and decelerating inflation; and (4) the role of supply shocks.

The volatility of growth in nominal GNP suggests that a target for such growth might be considered as a possible alternative to control of monetary aggregates. Major qualifications to the case for this approach includes lags and forecasting errors, uncertainty about policy multipliers, uncertainty about the natural rate of unemployment, and recent critiques based on the rational expectations view of macroeconomic behavior.

The paper treats supply shocks and institutional rigidities as constraints faced by policymakers. These influence the optimal degree of monetary accommodation of supply shocks and the choice among alternative paths for economic recovery. The analysis of constraints faced by the central bank contrasts with the usual analysis of a central bank operating in isolation.

Automobile Prices and Quality: Did the Gasoline Price Increase Change Consumer Tastes in the United States?

Makoto Ohta and **Zvi Griliches**
Working Paper No. 1211
October 1983

Did the 1973 and 1979 increases in the price of gasoline change consumer views about the relative quality of various cars? We investigate this question by testing the null hypothesis that imputed characteristic prices have remained constant over time. We first develop a hedonic model that takes gasoline costs into account and then outline some of its theoretical implications. We also discuss the statistical methods required for its estimation and for the testing of the particular null hypothesis and then use them to analyze the prices of U.S. passenger cars in the used market from 1970-81. If gasoline prices are not taken into account in such computations, the conclusion reached is that consumers changed their relative evaluations of car qualities significantly in both periods: October 1973 to April 1974 and April to October 1979. However, when gasoline efficiency terms are included in the model, the estimated relative qualities are much more stable over time, with no period showing significant changes, and it is possible to maintain the "constancy of tastes" assumption. Since the main model adjusts not only for the effect of gasoline price increases but also for the effects of changes in other prices and income, we develop two alternative approaches that adjust solely for the increase in gasoline prices. Applying these to the 1979 period, we find that a significant fraction of the change in coefficient that did occur can be attributed to the gasoline price alone, indicating that this is indeed a major component of what happened.

Social Security and Labor Supply

Alan L. Gustman and **Thomas L. Steinmeier**
Working Paper No. 1212
October 1983
JEL Nos. 810, 820, 915

We use a structural, life-cycle retirement model with an improved specification over previous models to ana-

lyze and compare the long-run effects on the labor supply of the rules for Social Security in 1972, 1977, and 1983, and the rules for an actuarially fair system. We also examine the effects of separate provisions from the 1983 amendments. These include raising the normal retirement age to 67, the increase in the delayed retirement credit to 8 percent, and the lowering of the reduction rate for earnings over the test amount to one dollar for every three dollars of earnings.

Capital Allocation in Multidivision Firms: Hurdle Rates versus Budgets

Robert A. Taggart, Jr.
Working Paper No. 1213
October 1983
JEL No. 522

It is common practice for firms to ration capital funds to their divisions, rather than to set a price and let the divisions use as much as they want. This appears to be true even when the overall firm faces no rationing in the capital market. This paper offers an interpolation of this phenomenon based on Martin Weitzman's "Prices versus Quantities" model. It finds that a rationing system is advantageous when division managers do not perceive the full consequences of their investment decisions for the firm as a whole. By contrast, a pricing system for allocating capital among divisions would be favored when the division managers have valuable information that cannot be communicated costlessly to headquarters. I then argue that, in many firms, actual practice of capital budgeting reflects a mixture of these two systems and can thus be interpreted as an attempt to reap both kinds of benefits at once.

Average Marginal Tax Rates from Social Security and the Individual Income Tax

Robert J. Barro and **Chaiput Sahasakul**
Working Paper No. 1214
October 1983
JEL No. 323

We extend previous estimates of the average marginal tax rate from the federal individual income tax to include Social Security "contributions." The Social Security tax is a flat-rate levy on labor earnings (and income from self-employment) up to a ceiling value of earnings. Our computations consider: (1) the tax rates on employers, employees, and the self-employed; (2) the amounts of income that accrue to persons with earnings below the ceiling; and (3) the effective deductibility of employers' Social Security contributions from workers' taxable income. We find that the net impact of Social Security on the average marginal tax rate was below .02 until 1966, but then rose to .03 in 1968, .04 in 1973, .05 in 1974, and .06 in 1979. Thus, since 1965, the overall average marginal tax rate rose more rapidly than the rate from the income tax alone. In 1980 this overall rate was 36 percent. We note that, in comparison with the income tax, the Social Security levy generates 3-4 times as much revenue per unit of contribution to the average marginal tax rate. The Social Security tax is relatively "efficient" because first, it is a flat-rate tax (rather than a graduated one) for earnings below the ceiling, and second, there is a zero marginal tax rate at the top. However, the latter feature has become less important in recent years. The rapid increase in the ceiling on earnings raised the fraction of total salaries and wages accruing to persons with earnings below the ceiling from 29 percent to 68 percent in 1982.

Taxes, Default Risk, and Yield Spreads

Jess B. Yawitz, Kevin J. Maloney,
and **Louis H. Ederington**
Working Paper No. 1215
October 1983

This paper represents an extension and integration of recent empirical and theoretical research on default risk and taxability. The purpose of the paper is to develop and test a model of spreads on interest rates that incorporates in a theoretically correct manner both the effect of taxes and differences in probabilities of default. There is an important, fundamental difference between our approach to explaining yield spreads and the approach most commonly taken in the literature. Unlike nearly all of the previous work, our study does not begin with a yield spread model (that is, by examining differences in yields) but rather begins with an expected return or pricing model, which can then be expressed in the yield spread format. This is a fundamental difference in approaches that we feel leads to a superior theoretical formulation that can then be tested empirically without many of the problems inherent in the alternative approach. The theoretical model is a simple extension of earlier work on default by Bierman and Hass (1975) and Yawitz (1977), altered appropriately to take explicit account of tax effects. While there is a considerable literature that analyzes the effect of taxability on rate spreads, no previous study familiar to the authors considers tax consequences in the event of a default—a rather surprising omission.

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