Editors' Summary

THIS ISSUE of *Brookings Papers on Economic Activity* contains papers and discussions presented at the forty-second conference of the Brookings Panel on Economic Activity, which was held in Washington, D.C., on September 11 and 12, 1986. One major article analyzes the oil price collapse of 1986 and draws inferences for the future of oil prices. A second explores the links between imperfect competition in product markets and the performance of the U.S. macroeconomy. A third seeks to explain the apparent upward drift of the "normal" unemployment rate in the United States. Four shorter reports examine, respectively, the LDC debt crisis, the role of debt in the U.S. farm crisis, the causes of the 1980s slump in Europe, and the procedure for seasonally adjusting the U.S. unemployment rate.

AFTER TWO EPISODES of spectacular price increases in the mid- and late 1970s as OPEC successfully limited the supply of oil, the oil price collapsed during the first half of 1986, leading many observers to announce the end of the OPEC cartel and the beginning of a new era of low energy prices. The reaction was characteristic. Since the first OPEC price explosion, opinions about the future of OPEC and world oil prices have been overly influenced by then-current developments. At the start of the decade, just after the second price explosion, the predominant view was that real oil prices would continue rising indefinitely. In the first paper of this issue, Dermot Gately analyzes afresh the recent collapse in oil prices and sees no sign of the death of OPEC.

As Gately models the world oil market, since the first price hikes in 1973–74, OPEC has been the residual supplier producing the difference between world oil demand at the cartel's price and production by non-OPEC sources. So to understand the pressures on prices over the period, one has to look at this residual demand. Before 1974, world demand for oil had been growing rapidly. The quadrupling in the world oil price

resulting from OPEC I led to conservation measures that, together with somewhat slower growth in world GNP, led to slower, but still positive, growth in world oil demand through 1979. Between 1979 and 1983, recessions worldwide and the oil price increases following OPEC II led to an absolute reduction in world oil demand. On the supply side, production from sources outside of OPEC had been growing slowly through the mid-1970s. But since then, spurred by an intensified search for new oil deposits, there have been substantial increases in supply from Mexico, the North Sea, Alaska, and a large number of small producers, raising non-OPEC oil production by nearly 50 percent.

As the residual supply, OPEC output fell more than 40 percent between 1973 and 1983 to 17.6 million barrels per day (bpd) and fell slightly further in 1985. Even these output declines did not keep the real price of oil from falling after 1981, so real OPEC revenues declined even more sharply than output during the 1980s. In part because other members of OPEC appeared to be producing more than their allotted quotas, most of the output decline and revenue loss were borne by the "Core" group consisting of Saudi Arabia and its immediate neighbors, Kuwait, the United Arab Emirates, and Qatar. In 1986, in an attempt to force other members of OPEC to accept more of the burden of output reduction, Saudi Arabia and its allies abandoned their practice of reducing their output in order to maintain prices and chose instead to raise output and allow prices to fall. Between August 1985 and mid-1986, OPEC output increased by about 4 million bpd, or about 25 percent, with more than half of the increase coming from Saudi Arabia. Oil prices fell precipitously.

Most forecasts of oil prices since 1973 have not been very successful. Forecasters missed both the OPEC I and OPEC II price increases. Perhaps more telling, most did not foresee the decline in the real price of oil during 1981–85 or the abrupt collapse of oil prices in 1986. During the 1980s, the median projection by oil analysts of oil prices for the 1990–2010 period was always approximated by a steady growth path from the then-current price. Gately turns to a model of oil demand estimated through 1982 to ask why analysts were surprised by actual developments in this period. He asks, first, whether forecasters at the start of the decade could have foreseen that the world supply-demand balance would force OPEC production so low by 1985 and, second, whether the collapse of oil prices in 1986 could have been foreseen in 1985.

Gately finds that forecasts made at the beginning of the decade were likely to involve both overprediction of world demand and underprediction of non-OPEC supply. He regards the 15 percent increase in non-OPEC production between 1980 and 1985 as a surprise that would have been difficult to foresee in 1980. Similarly, the severe recessions in the first part of the decade were unexpected and helped account for oil demand forecasts that appear optimistic in hindsight. If the actual path of GNP and oil prices in this period are used in the forecasts, Gately's equations track world oil demand well, capturing the conservation that took place in response to sharply higher oil prices. Since actual prices were, if anything, lower than those expected in 1980, overly optimistic projections of world GNP growth appear to account for overprediction of demand. He judges that a reasonable estimate of non-OPEC supply in 1985 might have been 2 million bpd lower than actual and that an estimate of world demand might have been 1 to 2 million bpd higher than was actually experienced, for a combined "error" of 3 or 4 million bpd.

An error of that size does not look large relative to the size of the world oil market. But, as Gately observes, the production limitations implied by the error caused severe problems within OPEC, sharply cutting OPEC revenues and especially the revenues and output of the Core producers. By 1982, OPEC production had fallen below 20 million bpd from the 30 million bpd produced in 1979, with production in Saudi Arabia falling to around 6 million bpd. Those production levels posed no great problems for the cartel. But the further deterioration in the balance between world demand and non-OPEC supply between then and 1985, although modest, was enough to push Saudi production below 3 million bpd in early 1985. In that situation, analysts expected a soft oil market, but still did not foresee the collapse in price that actually occurred.

Gately believes the major error in forecasting 1986 prices was in not foreseeing that Saudi Arabia would expand Core output and lower prices as a way of forcing other OPEC producers to be more cooperative in holding back total OPEC production. Many observers may not have fully appreciated how little Saudi Arabia's revenue would suffer from a policy of increasing output and allowing prices to fall. Because Saudi production was already so low, it confronted the alternatives of, roughly, doubling its output and seeing the price it received fall in half, or maintaining a very low output level as a way of maintaining the price. But for other oil producers, whose output would not expand proportion-

ately, the price decline would drastically reduce revenues. Even if the insensitivity of Saudi Arabia's revenues to its new policy had been foreseen, Gately believes that forecasters could not have predicted the Saudis' willingness to take the political risks inherent in sharply reducing the revenues of other oil producers.

Looking into the future, Gately uses a model of world demand and supply to illustrate the consequences of alternative OPEC policies for its members. In the model, world GNP is assumed to grow 2.5 percent a year. OPEC's Core producers absorb most of any reduction in output that is needed to achieve any assumed price path. Output from Iran and Iraq is figured to rise 50 percent by 1988, from 4 million bpd to 6 million bpd, with an assumed end to their war. The model generates alternative paths for output and revenues for any assumed path of prices, with total OPEC output eventually stabilizing at a ceiling of either 25 million bpd or 35 million bpd, levels that are intended to bracket probable outcomes, compared with recent levels of about 17 million bpd. In the model, the real oil price is constant until the output ceiling is reached and then rises to clear the market.

Gately considers three initial prices—$10, $18, and $26 a barrel. The lower the initial price, the faster the demand for OPEC oil grows and the sooner its output ceiling is reached, both because world oil demand increases more rapidly and because non-OPEC supply is deterred. Initially, revenues of the Core producers would be about the same with either a $26 or $18 price, but they would be substantially lower with a $10 price. Over the next several years, Core producer revenues would be highest at the $18 price. For all of OPEC, however, revenues in the early years would be lower the lower the price.

Because the different price and output paths leave different amounts of oil "in the ground" at the end of his simulation period, and because they have different time paths of revenues, Gately compares the present value of the alternative OPEC price policies. With a 10 percent discount rate and an output ceiling of 25 million bpd, there is little to choose among the alternative price paths. With a 20 percent discount rate or a 35 million bpd output ceiling, present values are higher the higher the initial price. Either lower initial prices or higher output ceilings defer more of the revenues from oil into the future, and a higher discount rate means that future revenues are valued less highly. Hence, with a high subjective discount rate, which some observers have argued is plausible

for many OPEC governments, the paths that involve higher initial prices and lower initial output levels are the ones maximizing the wealth of OPEC, even if viewed from a very long run perspective.

Gately concludes that the sharp oil price break of 1986 was an aberration that signals neither the end of OPEC control over prices nor a return to an era of lower prices. For the immediate future, he observes that there have been no changes in the oil market fundamental enough to sustain a price as low as the recent price of $12 a barrel. And with fresh memories of such prices and the fear that they would go even lower, Gately reasons, the Core producers will be more likely than they were a year ago to gain cooperation from other members of OPEC in sticking to production quotas. However, he also observes that capacity utilization among Core producers is already very low. Any renewed weakness in world demand, stemming, say, from a recession or from a sharp increase in production from Iraq and Iran before world demand has risen much, could weaken the demand for oil confronting the Core to a point at which the price could break again.

For the medium run, his assessment rests on the judgments that non-OPEC oil production is near its peak level, that the growth in world income will continue to increase the demand for energy, and that alternative energy sources are not likely to be either cheap or plentiful. He notes that non-OPEC reserves, as opposed to production, have not increased substantially despite intensive exploration and that competitive alternative energy sources, except for natural gas, have not been developed. Conservation in response to higher prices is largely behind us and may be partly reversed now that real oil prices have fallen from their peak. Hence, Gately believes that the real oil price is likely to rise to its 1980 level within five to ten years. He expects that, as a result of the experience of the 1980s, OPEC will be much more cautious about raising price abruptly in the next decade, so that prices will probably rise gradually. However, he cautions that once demand for OPEC oil reaches a level near production capacity, the risk of abrupt price changes will greatly increase and that, unfortunately, the West will be only slightly less vulnerable to such a disruption than it was in 1979–80.

TRADITIONAL MACROECONOMIC MODELS, like their general equilibrium counterparts, assume that final product markets are competitive, with unemployment and sticky price and wage behavior reflecting imperfec-

tions in the labor market. Recent years have witnessed a new theoretical interest in the implications of imperfect competition for the macroeconomic behavior of the economy, but little empirical research has paralleled this effort. In the second paper of this issue, Robert E. Hall investigates the relationship between market structure and macroeconomic behavior.

The first part of the paper attempts to use macroeconomic fluctuations to infer characteristics of the market structure of a variety of industries. Hall finds that the majority of the forty-eight industries he studies are noncompetitive in an important way, with prices exceeding marginal cost by a factor of more than one and one-half in about half of the cases where he is able to obtain reliable estimates. He also finds that a majority of firms typically operate on a decreasing portion of their average cost schedule with chronic excess capacity. The second part of the paper explores the other side of the coin, the implications of the observed noncompetitive behavior for the macroeconomic performance of the economy. His finding of significant markups of price over marginal cost provides an explanation for changes in productivity measured over the cycle. Hall goes on to argue that not only do prices exceed marginal cost for most industries, but firms' market power, together with relatively flat marginal cost curves, greatly diminishes the "drive to full employment" that would be present under perfect competition. Hence, noncompetitive market structure may be an important part of the explanation for macroeconomic fluctuations in employment and output.

In contrast to most students of industrial organization, who rely on cross-sectional data, Hall exploits cyclical movements of output to estimate the ratio of price to marginal cost—the markup. Hall regards the fluctuations in aggregate output as natural experiments that produce fluctuations in output at the industry level that are unlikely to be contaminated by an industry's own productivity shocks. He assumes a conventional production relationship between capital, labor input, and technical change. But unlike earlier researchers, who have assumed price competition and allowed technical change to vary cyclically, Hall allows for imperfect competition and assumes that technical change is not cyclical. If firms are competitive, the estimated markup should be 1.0, while markups significantly greater than 1.0 signal the presence of monopoly power. One consequence of Hall's procedure is that movements in productivity that appear cyclical under the assumption of

perfect competition turn out to be the result of output responding to labor input by more than it does in the competitive model because the competitive response is multiplied by the markup.

Hall finds that twenty of the industries in his sample have "unreliable estimates" (standard errors of the estimated markup greater than 1.0) because of insufficient cyclical variation. Of the remaining twenty-eight industries, half have point estimates of the markup exceeding 1.5, and in thirteen industries the hypothesis of competition is decisively rejected. In six of these industries the estimated markup exceeds 2. Only three industries have markups at least one standard deviation below 1.4. The hypothesis of competition is also clearly rejected for aggregations of durable and nondurable goods industries within manufacturing. Hall concludes that in a significant portion of the economy, market power is substantial.

Hall emphasizes that these results follow from the assumption that technological change affecting the underlying production function is uncorrelated with the aggregate cycle. The same observations could be explained by assuming that technical change shocks are cyclical, as in the "real business cycle" theories. However, he argues that it is hard to make a persuasive case that fluctuations in technical change could explain a significant portion of cyclical behavior. According to Hall, technological shocks to the production function propagate slowly relative to the length of the typical business cycle; such shocks are unlikely to affect most industries simultaneously, yet industry outputs are highly correlated over the cycle; and it is curious to think that there are periods "when businesses throughout the economy choose simultaneously to abandon the most efficient methods." Hence, he believes that the cyclical fluctuations in measured productivity are likely to reflect the effects of imperfect competition as he models them.

If firms have market power, should they not be earning monopoly profit? Hall's answer is "not necessarily." If industries are monopolistically competitive as analyzed by Edward Chamberlin, equilibrium profits are dissipated by the entry of firms into the industry, but market power is retained because of product differentiation. Such an equilibrium is characterized by firms operating on a decreasing portion of their average cost curves with chronic excess capacity. Hall investigates the consistency of the data with this view by estimating what he denotes as "production profit"—the profit a firm would realize if it sold its output

at marginal cost. If a cost-minimizing firm is operating with constant returns to scale, production profits would be zero and any profits that the firm made would be "marketing" profits. Hall calculates pure profits (total profits minus an imputation for the normal returns to capital) and their allocation into these two categories, making use of independent estimates for the rental price of capital, the depreciation rate, and taxes. According to his calculations all of the industries with reliable results, except for the regulated industries, earn pure profits. However, production profits are negative in every industry with market power, with these production losses offsetting more than half of marketing profits in a majority of cases. Firms' profits are substantially less than one would expect on the basis of their monopoly power if they operated with constant returns to scale. He concludes that firms are operating in a decreasing cost region of their production function and are not typically operating anywhere near their physical capacities.

In a monopolistically competitive equilibrium, marginal cost is below price, and firms typically have substantial excess capacity. Hall notes that one of the macroeconomic implications of this market structure is that the economy's aggregate supply is highly elastic. Individual firms, normally operating with excess capacity, are capable of expanding output above normal levels by hiring relatively little additional labor. Because price substantially exceeds marginal cost, the increment to GNP will be worth more than the added wage cost. Thus the output of the economy is constrained by demand, and developments that stimulate demand, such as wars or prolonged fiscal or monetary stimulus, can call forth huge increases in GNP.

Another important implication noted by Hall concerns the economy's tendency to operate away from full employment. If a typical firm's profits are relatively insensitive to the level of output, this helps explain why the forces to restore full employment in the economy will be relatively weak and why the economy tends to drift for sustained periods at less than full employment. The firm's incentive for keeping output near its optimum depends on the slopes of its marginal cost and revenue curves, which, together, determine how much profits will fall when output deviates from the optimum. Hall argues that monopolistically competitive firms are much more likely than perfectly competitive firms to be operating along flat rather than positively sloped portions of their marginal cost schedules. He then shows by straightforward calculation

that profits as a percentage of sales are relatively insensitive to output for any value of demand elasticity. For a value of the demand elasticity of 2, for which profits are most sensitive, profit as a percentage of sales is below its maximum by less than 0.6 of a percentage point for output deviations of as much as 20 percent. Hall concludes that, with constant or increasing elasticity of demand and constant marginal cost, the incentive to produce exactly the profit-maximizing output will be weak: managers correctly perceive that, although lowering price will raise volume, the effects of price and volume on profits approximately cancel.

This near-indeterminacy of the firm's preferred price and output combination does not by itself imply that firms will tend to respond to demand shocks by stabilizing price. A firm could just as well choose to stabilize its output and let price absorb all shocks. Hall finds that, in fact, there is only a slight positive relation between market power and output instability. Some other additional considerations, such as the damage that unstable prices do to customer relations, are required to lead firms to choose price stabilization. However, Hall notes that in those industries that he has estimated to have substantial market power, management does appear to set price and let customers choose quantities.

IN THE LATE 1960s, a 4 percent unemployment rate was the government's interim full-employment target, and the reduction of unemployment below 4 percent appeared to rekindle inflation. In a 1970 issue of the *Brookings Papers,* Robert Hall wrote a paper entitled "Why Is the Unemployment Rate So High at Full Employment?" (*BPEA, 3:1970*). His answer was that the special problems of certain disadvantaged groups and normal job turnover in the rest of the economy kept the full-employment rate "so high." Since Hall wrote, the average unemployment rate in the United States has drifted upward. In the third paper of this issue, Lawrence H. Summers examines why. One possibility is that the drift simply reflects successively greater slack in each cycle. Rather than directly addressing this question and explaining the short-term ups and downs of unemployment that are part of the business cycle, Summers focuses on the factors that may be responsible for a fundamental shift in the relationship between employment, output, and the pressure of prices and wages, factors that could account for a drift in "normal" unemployment from one cycle to the next.

Summers finds evidence of such a drift in the relation between

unemployment and other indicators of market tightness. He notes that in recent years a given unemployment rate has been associated with more inflation than it was in earlier periods. He shows that between 1955 and 1985 there was an upward trend both in total unemployment and in adult male unemployment relative to job vacancies as measured by "help-wanted" advertising, with the trend especially strong after 1967, suggesting a deterioration in the match of jobs and workers. He also finds a similar upward drift in either measure of unemployment relative to capacity utilization in manufacturing.

Summers provides an assortment of evidence that an upward drift in unemployment reflects worsening job market experiences of particular groups rather than any change in the composition of the labor force or some benign change in the way unemployment is reported. Although the influx of women and young people into the labor force accounted for part of the rise in normal unemployment from the 1960s to the 1970s, Summers shows that it does not account for the recent rise in the unemployment rate. He calculates that the effect of the age and sex of the work force on unemployment peaked in the mid-1970s and, by the mid-1980s, was no greater than it had been in 1971. Nor do adjustments for composition that take account of marital status or industry of last employment account for any of the rise in unemployment since 1977. And unless one assumes that it is relative education within an age cohort, rather than absolute years of education, that matters for one's employment prospects, the increase in average years of education of workers points to a decline in normal unemployment between the 1970s and 1980s.

The increase in unemployment between the late 1970s and 1985 fell disproportionately upon mature men. Males aged thirty-five to forty-four, for instance, experienced similar, and low, unemployment rates in each of the high-unemployment years of 1965, 1974, and 1978. But their unemployment rate in 1985 was 75 percent higher than it was in 1978. In this period, their unemployment experience deteriorated substantially relative to the national average, which was only 18 percent higher in 1985 than in 1978. Other adult male age groups had a similar experience. Data arranged by marital status show that married men also experienced a disproportionate rise of unemployment over these same years. These groups have traditionally had stable job attachments and financial responsibilities, and their unemployment is not easily dismissed as

merely the frictional unemployment involved in normal patterns of job changing. Nor does the evidence support the idea that unemployment has risen because more people have only marginal attachment to the work force. Over the past decade, the fraction of unemployed people whose primary activity was keeping house or going to school has declined.

Summers finds further evidence of the seriousness of current unemployment in the data that decompose unemployment by reason and by duration. Between 1978 and 1985, the proportion of unemployment accounted for by job losers rather than voluntary job leavers or entrants to the labor force rose from 41 percent to 50 percent. The mean duration of unemployment rose from 11.9 weeks to 15.6 weeks, and the share of unemployment accounted for by persons unemployed for more than 27 weeks rose from 46 to 54 percent. Finally, Summers updates Gary Burtless's analysis (*BPEA, 1:1983*) comparing total unemployment with the number of workers receiving unemployment compensation and shows that declining fractions both of all unemployed persons and of job losers are receiving unemployment insurance benefits. Hence, the cost of being unemployed has actually risen for these individuals. In light of all these findings, Summers reasons that it is hard to argue that increased unemployment reflects diminished incentives for finding work.

In order to explain why the recent rise in unemployment has fallen so heavily on mature men and job losers, Summers turns to evidence on labor market conditions disaggregated by state and region. He first removes the effects of differences in the characteristics of workers or jobs in a state by statistically estimating their differential contribution to unemployment and adjusting for it. The adjustments go in the expected direction; for instance, allowing for the industrial composition of employment accounts for some of the extraordinarily high unemployment in the Rust Belt states. But most of the differences in unemployment rates among states remain even after such adjustments. Summers finds, for example, that the unadjusted unemployment rate in Ohio in 1984 was 4.6 percentage points above that in Massachusetts; when differences in the characteristics of workers and jobs are taken into account, the adjusted unemployment rate of Ohio is still 3.4 percentage points above that of Massachusetts.

It might be expected that differences in unemployment among states reflect differences in demand, and Summers examines the relationship

between the unemployment experience of states and their employment growth. Perhaps surprisingly, he finds that growth of employment explains only a small portion of the change in unemployment across states over anything but the shortest time interval. A state in which employment grew by 10 percent more than the average over the entire 1970–85 period is predicted to enjoy only a 0.17 percentage point decline in unemployment relative to the average. Put another way, over any substantial time interval, employment growth is highly correlated with growth in the labor force itself. Even over the single year 1984–85, only approximately one-quarter of the increase in a state's employment shows up in a reduction in that state's unemployment. Summers offers a striking example of the lack of correlation between employment growth and change in unemployment. From 1976 to 1985, Massachusetts's unemployment rate fell 5.5 percentage points to the lowest level in the country, while the national average unemployment rate fell only 0.5 percentage point; yet employment actually grew more slowly in Massachusetts than it did in the nation as a whole. But if the changes in total employment do not explain much about unemployment, changes in high-wage employment do. Summers finds that unemployment drops with an expansion in high-wage jobs and rises when high-wage jobs are lost.

This finding of a special effect from high-wage job growth leads Summers to consider models of the job market that might explain it. He reasons that segmented labor markets, in which employed workers with similar personal characteristics receive different compensation depending on their employer, can give rise to transitional unemployment among workers who prefer to look for high-wage jobs rather than accept low-wage jobs that are more readily available. He discusses several explanations for why wage differences exist among firms or industries hiring similar labor. One explanation rests on institutional characteristics of markets, such as the existence of unions or regulations. According to another class of explanations, known as efficiency wage theories, it is much more important for some firms than others to maintain high morale, reduce turnover and hiring costs, and induce work effort by paying high wages. Still another class of explanations, known as insider-outsider theories, works on the idea that incumbent workers are able to extract higher wages from firms because hiring and training workers is costly.

The extent of transitional unemployment is likely to be determined by the size of the wage differential between high- and low-wage jobs, the availability of high-wage jobs, and the costs of remaining unemployed.

Summers reasons that the wage differentials created by unions may have contributed to transitional unemployment, both by costing jobs in the unionized sector and by making those who lost those jobs more reluctant to accept low-wage jobs. In cross-state regressions for 1985, Summers finds that the degree of unionization helps to explain a state's unemployment. After controlling for the presence of high-wage industries in each state, he finds that an increase of 10 percentage points in a state's unionization rate increases the unemployment rate by 1.2 percentage points. Because the union effect was smaller—indeed, insignificant—in 1970, Summers reasons that the effect of unionization is greater in 1985 than it was in 1970. In support of this inference, he shows that the union-nonunion wage differential widened substantially during the 1970s, as did other measures of wage dispersion.

From this evidence on the nature of current unemployment, Summers draws several inferences for economic policy. First, while high unemployment is a serious problem, and not simply a reflection of inevitable frictional forces in the economy, policies to expand aggregate demand are unlikely by themselves to be able to reduce unemployment to the level of the 1950s and 1960s without accelerating inflation. Because of higher union wage premiums and greater wage dispersion in the economy generally, people who lose high-wage jobs will be more willing to remain unemployed longer in the hope of recapturing a high-wage job than they were in earlier years, thus adding to normal unemployment. Second, policies that stabilize the economy rather than allowing it to fluctuate cyclically will help to reduce transitional unemployment. Any contraction of the economy that shrinks the high-wage sector will add to such unemployment, which will remain high, even with a recovery, if new high-wage jobs are taken by workers other than those previously laid off. Thus Summers reasons that the policies that reduced employment in the high-wage manufacturing sector in recent years are probably worsening transitional unemployment today and would leave some increment of transitional unemployment even if a change of policies now expanded manufacturing output.

AFTER A YEAR of optimism in 1984, when it appeared that the LDC debt problem had been brought under control, the debt crisis has reemerged as a major concern of debtor nations, creditors, and policymakers. And it has reemerged despite expansion in the industrialized nations and severely restrictive policies in the LDCs. In the first report of this issue,

Jeffrey Sachs analyzes the debt crisis, showing that the strategy of debt management that has been pursued in recent years is only postponing a permanent solution to the problem, in the meantime causing severe economic hardship to many debtor nations and risking dangerous political upheavals.

Sachs summarizes the developments of recent years that have led to the present situation. From the start of the debt crisis in 1982, when Mexico first appeared unable to service its debt, the debt management strategy of the creditor nations has focused on maintaining the servicing of commercial bank claims on the LDCs. Creditor governments have pursued debt rescheduling rather than debt relief and have promoted the substitution of official for private debt. Neither of these steps has reduced the debt burdens of the LDCs, but both have reduced the debt exposure of the nine large U.S. banks that were the primary lenders to the LDCs, from 288 percent of their capital in 1982 to 173 percent in early 1986. For loans to Latin America alone, exposure has fallen from 177 percent to 120 percent of bank capital over this interval. The reduced exposure has been achieved by a steady and substantial resource transfer from Latin American nations to creditors as interest repayments and foreign profits exceeded lending and other capital inflows in each year starting in 1982.

In October of 1985, U.S. Treasury Secretary James Baker announced a new initiative on the LDC debt problem when it became apparent that most of the debtor nations were not recovering adequately and faced renewed difficulty in servicing their debt. But Sachs points out that the Baker plan was merely an intensification of the existing procedures for dealing with the debt. Commercial banks and multilateral lending institutions were expected to make sizable new loans to the LDCs, but no loan concessions or other easing of the interest burden on debtors was proposed. More recently, Senator Bill Bradley broke new political ground with a proposal that would offer debt relief conditional on economic policy reforms. The relief would be subject to negotiation on a case-by-case basis and is envisioned to take the form of forgiveness of a portion of principal or a portion of interest payments, or both.

Sachs agrees with Bradley that the debt crisis requires more than the mere deferral of debt repayment. He documents the economic decline of LDCs and the worsening of their ability to meet their debt obligations. From 1981 to 1985 real per capita GDP declined by 15 percent or more in seven out of fifteen Latin American nations, while the ratio of debt to

exports has risen in countries throughout the region and now exceeds 300 percent for all Latin America. Sachs recounts some history from the 1930s as providing a lesson for the present debt crisis. Pressing Germany to meet its reparations payments deepened the economic depression that helped bring Hitler to power. And the British insistence that Argentina maintain its debt service led ultimately to its revulsion against foreign influence and to the rise to power of Juan Peron. For many LDCs today, full debt repayment is not only infeasible; attempting to exact it runs a grave threat to political stability.

In light of his analysis of the current and prospective state of many LDC economies and their chances of successfully dealing with the present debt burden, Sachs supports the idea of partial debt forgiveness that is at the center of the Bradley plan. But he proposes a modification that would aim relief at nations that have suffered extensive economic hardship, and that would encourage net new lending to nations that do not qualify for relief but that would benefit from funds that would permit needed new investment. Sachs suggests that a workable scheme for debt relief might provide temporary suspension of interest payments for countries whose per capita income has declined by 15 percent or more from previous peaks. As an example, he calculates the consequences of providing five years of debt relief to Latin American countries that have experienced declines of 15 percent to 25 percent and ten years of relief to Bolivia, which has experienced a decline of over 25 percent. The present value of such relief would amount to only 6.2 percent of U.S. bank capital. For countries that do not qualify for relief under his formula, but whose ability to expand is impaired by the inability to get new funds for needed investment, Sachs proposes that creditor governments arrange to give new loans senior status over existing loans. He points out that if such new investments are productive, they will enhance the ability of the debtors to meet both old and new obligations.

One objection to debt relief is that, like defaulting on a loan, receiving it will impair a country's ability to borrow in the future. Sachs notes, however, that nations that failed to service their debts during the depression years generally received significant debt relief after the war and were able to resume borrowing. More recently, debt relief to Indonesia and Turkey permitted renewed economic growth without impairing creditworthiness. Indeed, given historical experience, one might wonder why more countries have not defaulted. Sachs suggests

that they have not because they fear the loss of access to official, as well as private, lenders, and even trade reprisals. He argues that if the creditor nations were to adopt a carefully controlled system of debt relief, they could induce private-sector cooperation and avoid the risk that the debtors would lose creditworthiness.

Sachs emphasizes the need to make debt relief conditional on policy reforms that would enable the debtor nations to resume economic growth and regain creditworthiness. But, he argues, unlike recent conditions imposed on the debtors, new conditions should be realistic and recognize that structural changes in the debtor economies will take decades rather than years to be fully successful. In addition, he believes that policymakers should recognize the need for equity and fairness in the burden placed on various sectors within the debtor countries, considerations that have been notoriously absent from the structural reforms implemented in recent years, during which the wealthy have protected themselves through capital flight and low tax payments, while the poor have suffered disproportionately the burdens of high inflation and economic austerity.

THE 1980s have been disastrous for U.S. farmers. Both farm prices and exports have fallen, reducing gross real farm income. Farmers, with heavy debt burdens accumulated in the late 1970s, find themselves with interest obligations that have more than doubled since 1975. The valuation of farm assets and the condition of financial institutions that provide farmers with credit have been dramatically affected. In the second report of this issue, Charles W. Calomiris, R. Glenn Hubbard, and James H. Stock document the deterioration of the economic health both of farmers and of the financial institutions servicing them. The authors analyze the special characteristics of farm loans and financial markets that make them particularly susceptible to crisis, show that problems of the farm credit market can in turn add to the problems of farmers themselves, and discuss credit market reforms that might be beneficial to the agricultural sector.

During the 1970s, U.S. agriculture enjoyed a prosperity that made farmers particularly vulnerable to subsequent declines. Real farm exports more than doubled between 1970 and 1979, and real farm income grew at an annual rate of 4.1 percent during the decade. Calomiris, Hubbard, and Stock document that the resulting increases in the national

value of farmland and farmers' equity were even more dramatic, rising 88 and 79 percent, respectively, during the same period. The increases in land values provided the backing for farm debt, which rose 64 percent; debt was nearly as large relative to farm equity in 1980 as it was in 1970 in spite of the dramatic increases in land values themselves.

The growth in interest obligations of farmers provides the most dramatic evidence of their increased dependence on credit markets and vulnerability to changes in credit availability. Interest as a proportion of farm income grew from less than 6 percent in 1970 to more than 13 percent in 1982–84. The decline in farm incomes pushed some farmers into default and more close to it. The authors report that in 1984 more than 20 percent of total agricultural loans were to borrowers with debt-equity ratios over 70 percent and a negative cash flow. Some observers have predicted that nearly half of all farm loans may go into default. Along with the declines in farm incomes, the real value of U.S. farmland dropped dramatically. Nationwide, the price of farmland, which had appreciated by nearly 90 percent in the 1970s, fell by 29 percent from 1980 to 1984, and the decline in the Corn Belt and Northern Plains has been far worse; the value of farmland in Nebraska is now half what it was in 1980. Hence, the value of the collateral behind farm loans itself placed banks in even greater jeopardy.

The authors note that agricultural banks accounted for 41 percent of commercial bank failures in 1984 and have accounted for more than half of all failures in every quarter since. What is more, government-sponsored agricultural credit agencies have experienced parallel problems. Lending intermediaries of the Cooperative Farm Credit System have experienced a growing rate of loan delinquencies and, in part because of the high interest rates they currently charge, a declining quality of loans in their portfolios. The Farmers Home Administration, the "lender of last resort" for farmers, has come up against congressionally imposed lending limits as loan demand has risen, and has been forced to tighten lending standards, thereby threatening to force more farmers into bankruptcy.

Calomiris, Hubbard, and Stock contend that the crisis in agricultural credit markets is not just a symptom of the adverse shocks that have hit farm incomes, but a mechanism by which the effects of these shocks are worsened. The authors identify certain characteristics of agricultural lending that they believe help explain how the farm credit market is

contributing to the farm crisis. They note that farmers' collateral is largely farmland, the value of which is highly correlated with fluctuations in farm incomes, rather than being anchored to replacement cost as in the case of most manufacturing capital. Furthermore, they argue that because of agency problems—the difficulty that outside parties have in monitoring managerial effort and decisionmaking—and more general asymmetries in information between borrowers and lenders that characterize agriculture, farm lending involves credit rationing—quantitative limitation on the credit made available to individual farmers. Together with state limitations on branch banking, the importance of information about individual borrowers means that loan markets are predominantly local, that banks are not well diversified, and that their fate is tied to the economic health of their locale. Thus when some farmers are in trouble, their banks will also be in trouble, and that will restrict the quantity of loans made to other farmers and threaten their viability as well.

In order to investigate the importance of these distinctive characteristics of farm lending, Calomiris, Hubbard, and Stock use panel data on income and balance sheets of farmers and the condition of banks disaggregated by state. The panel covers a sample of twenty-four relatively agriculture-intensive states for the years 1977–84. The authors estimate a reduced-form equation for agricultural output and attempt to avoid problems of simultaneity by using lagged endogenous variables and their interactions with survey data on bankers' expectations about future loan demand as instruments. The authors find, as they expect, that lower collateral and higher debt service relative to income are associated with lower output (although debt service is not always statistically significant). Bank failures, presumably resulting in a restriction in the supply of credit, also have a significant and negative effect on output. The authors are sensitive to the possibility that, despite their use of instruments, their estimates may be contaminated by causation running from output to bank failures rather than the other way around. The evidence does suggest that declines in farm income, as opposed to output, lead to increased bank failures. But separate tests of causation support the view that bank failures cause output losses and not vice versa.

The plight of the farmers has not been overlooked by the federal government, even though farm policy has not been successful in stabilizing income and avoiding bankruptcies. The 1981 farm bill cost $63

billion over the ensuing four years, and the price-support and acreage-reduction programs are projected to cost $26–$30 billion in 1986. Calomiris, Hubbard, and Stock argue that it would be more efficient to aid the farm sector by improving its financial markets. They offer two principal recommendations. First, they suggest that the government provide programs that recapitalize threatened financial intermediaries, thereby mitigating the spillovers from unhealthy to otherwise healthy firms. They recommend targeting funds to support efficient farm production in the long run and are therefore skeptical of broad-based programs that provide debt forgiveness or income support independent of the long-run viability of the particular borrower. In accordance with this view they believe resources should be focused on those local financial institutions that are most likely to possess the scarce information about borrowers and to select optimally among them, rather than relying heavily on government-administered loan programs. Second, they support greater diversification of loan portfolios by agricultural lenders. To achieve this goal, they recommend eliminating branching restrictions on banks and improving the ability of the farm credit system to borrow in national markets and lend across agricultural districts.

EUROPEAN ECONOMIC PERFORMANCE in the 1980s has been dismal. Unemployment rates in the European Economic Community, which were already high in 1980, have risen for five years in a row, reaching levels that have not been seen since the Great Depression. The experience has been unusual in other respects, leading, as it has, to a fall in labor's share of income, a spurt in productivity, and a reduction of excess capacity. In the third report of this issue, J.-P. Fitoussi and E. S. Phelps argue that existing macroeconomic models do not provide a satisfactory account of this experience and offer an interpretation of their own.

Fitoussi and Phelps begin by discussing the difficulties that existing theories have in dealing with the salient features of the slump in Europe. They observe that the extended rise in unemployment is inconsistent with a meaningful notion of a "natural" unemployment rate. European unemployment has gone from bad to worse, seeming to lack a tendency to return to any natural level. They argue that explanations pointing to Europe's own contractionary fiscal policies as the source of rising cyclical unemployment are also deficient. They estimate that in 1985 Europe's high-employment budget surplus as a percent of GDP exceeded

its 1980 level by less than 1.5 percentage points. What is more, the change in these budgetary surpluses varied substantially among individual countries, yet the increases in their unemployment rates during the period were remarkably similar. Finally, according to the Keynesian fiscal hypothesis, fiscal contraction should have lowered interest rates, but in fact both real and nominal rates were high in Europe during the period. While acknowledging that fiscal policy could have been combined with price or monetary shocks to produce the observed behavior of the economy, the authors conclude that the fiscal explanation is "seriously incomplete or that the orthodox theory of how fiscal policy affects the economy is seriously inadequate."

Fitoussi and Phelps also question explanations that rely on the traditional links between U.S. and European performance. Early in the slump many observers attributed Europe's problems to the U.S. recession; but this explanation has lost its force as the United States has recovered while Europe has not. As the authors put it, "A locomotive that can push a train in reverse will certainly pull it when put in forward gear." They also note that conventional open-economy macroeconomic models predict that tight money and easy fiscal policy, the U.S. policy mix during most of this period, should have produced an export-led expansion in Europe by appreciating the dollar. As a point of theory, the authors show that it is possible for dollar appreciation to depress European output since it raises the price of imported goods and can thus adversely affect both the demand for and supply of output within Europe. Transmission of import price increases to the wage rate through wage indexing would add to these contractionary effects. But Fitoussi and Phelps find it implausible that these theoretically possible effects could have been so large as to swamp the conventional stimulative effects of dollar appreciation and to have been an important cause of Europe's slump. Furthermore, they see no evidence that the reversal in the dollar's appreciation is strengthening European recoveries.

Finally, the authors reason that the hypothesis of excessive real wages, or large "wage gaps," as originally proposed by Michael Bruno and Jeffrey Sachs, fares no better in explaining the rise in unemployment during the past five years. They report updated calculations showing that although wage gaps may remain high, they decreased significantly in most countries during the same period in which unemployment rates rose dramatically. Indeed, they note that by 1983 the wage gaps for Italy and Sweden had returned to levels at or below those of 1973.

While discounting the importance, or at least the completeness, of conventional links tying European performance to U.S. policies, Fitoussi and Phelps describe some hitherto neglected channels through which they believe U.S. policy has had an adverse affect on Europe. The most important of these involve the increases in real interest rates that the authors attribute primarily to U.S. fiscal stimulus—especially the new investment subsidies introduced in 1982—presumably in combination with tight money. One new channel is the adverse effect of these higher real rates on the price markups of European firms competing against American firms in world markets. The authors sketch out a customer-market model in which higher interest rates increase the cost of "investing" in future market share and so increase the incentive to raise current prices at the expense of future market share. They cite the noticeable declines in the share of labor during the period as supporting evidence of their hypothesis. This effect of real interest rates on markups is complemented by the more orthodox effect of dollar appreciation, which leads U.S. firms to shave their markups to minimize loss of market share and leads European firms to take part of their improved competitive position in the form of increased markups. The combined effect explains why, despite high interest rates, U.S. markups declined in the sectors most exposed to foreign competition, while European markups rose strongly in those sectors.

High real interest rates depressed European fixed capital investment, which helps explain the slow growth of capacity and the decline in excess capacity. In addition, Fitoussi and Phelps identify two other types of capital adversely affected by high rates. The first is working capital, which other authors have argued is significantly affected by monetary policy in less developed countries, but which is not generally mentioned in discussions of Europe. Like a reduction in fixed capital, a reduction in working capital increases the supply price of output. The second, and more novel, type of capital affected is the firm's investment in its stock of employees, which is important because of rising marginal recruitment and training costs and the firm-specific skills that employees acquire. In anticipation of future needs, a firm will maintain a stock of employees that at times exceeds its need for labor to produce current output. But as real interest rates increase, causing the future to be more heavily discounted, firms will lay off workers to reduce this labor hoarding. The authors report finding a sharp decrease in labor hoarding in Europe in late 1981 and 1982 following the sharp rise in real interest rates, and note

that the decreased labor hoarding helps explain the surprising rise in output per employee during the period.

A central question in assessing the blame for the European slump is the extent to which European policy itself could have offset the putatively adverse effect of U.S. policy. Fitoussi and Phelps believe that the fiscal tightening in Europe itself did make a difference for European unemployment and that the evidence makes it "inescapable" that there occurred a decrease in the supply of real cash balances or an increase in the demand for real balances. Given the higher rates of inflation in these countries throughout the period, real money supply growth was actually lower in Europe than it was in the United States. The authors thus reason that part of the blame for Europe's unemployment rests on the tight fiscal and monetary policies pursued by European policymakers themselves.

ONE OF THE MOST CLOSELY WATCHED economic statistics is the seasonally adjusted unemployment rate, announced on the first Friday of every month. In the final report of this issue, Michael C. Lovell examines movements in that series and concludes that a significant amount of the variation in the announced numbers is "noise" that could be reduced by a simple adjustment.

The attention to the seasonally adjusted series is understandable. Recurring distortions, such as the tendency for unemployment to be high in January and February because of weather and to jump up in June and down in September because of the school year, make the unadjusted series an unreliable indicator of the fundamental strength of the labor market. But Lovell believes that few observers realize the imprecision of the seasonal adjustment itself. The Bureau of Labor Statistics calculates its seasonal adjustment factors using a ratio-to-moving-average technique on monthly fluctuations in unemployment. It continually updates these seasonal factors, taking into account what is learned from subsequent monthly fluctuations. Thus in each of the five years following the initial release of an unemployment estimate, BLS issues revised "hindsight" estimates of unemployment based on the revised seasonal factors. Lovell shows that the revised unemployment series can give quite a different impression than the initial series, particularly when viewed as monthly changes. For example, the encouraging decline in unemployment originally reported for January 1982 appears in retrospect

as an increase indicating that the recession was deepening. Although the revisions in monthly unemployment estimates are on average zero, the standard deviation of the revisions in month-to-month changes is about 0.14 percent, or about half the variation in the reported change itself. Lovell suggests that the BLS emphasize this fact by calling the announcements "preliminary."

Errors in the initial estimates of seasonally adjusted unemployment might simply be unavoidable; but using statistical regressions Lovell finds that in fact they could be substantially reduced by making a simple proportionality adjustment. If the change in seasonally adjusted unemployment initially reported by the BLS is multiplied by two-thirds, the resulting estimate of the change in unemployment is significantly closer than the initial number to the change finally estimated by BLS five years later. Although Lovell's indicated adjustments are rarely large, because monthly changes in unemployment are typically small, his regressions show there is a systematic error in using the initially reported number as a forecast of the final unemployment number. The initial number is not a "rational" forecast of the final number.

Lovell goes on to show that it is possible to improve further the initial estimate of the seasonal correction, and hence the initial estimate of unemployment, by taking account of other information available at the time the announcement is first made. He concludes by arguing that the ratio-to-moving-average method of seasonal adjustment used by BLS could be substantially improved by explicitly modeling the process by which seasonal fluctuations are generated, incorporating monthly data on such variables as school enrollments, weather conditions, and seasonal hiring trends.