

Editors' Summary

THE FOUR PRINCIPAL ARTICLES AND FOUR REPORTS in this issue of *Brookings Papers on Economic Activity* were presented at the thirteenth conference of the Brookings Panel on Economic Activity held in Washington on April 25–26, 1974. A number of the papers in this issue deal with the special problems of inflation today and the way they complicate the conduct of policy.

The economy lately has been subject to a wide variety of external shocks affecting the price level, including dollar devaluation, crop failures abroad, the imposition and then removal of wage and price controls, and the jump in the price of oil. In the first article of this issue, James Pierce and Jared Enzler analyze the effects of such shocks on the economy and some of the problems they pose for the formulation of monetary policy.

The authors note three main avenues through which an external price rise may have an impact on the economy: by lowering real income and wealth, it will reduce consumption; by increasing the nominal level of transactions, it will raise the demand for money; and by raising consumer prices, it will accelerate wage increases. How large the initial impact via any one of these avenues will be depends on the nature of the initiating shock. Thus, for example, the depressing effect on consumption of a rise in oil prices will be greater for imported oil than for domestically produced oil since the higher revenues in the case of imported oil will not raise domestic incomes.

Whatever the initial impact of a price shock, it will generate important

secondary effects as spending, prices, and interest rates respond and induce still further changes in economic activity. In addition, the actual course of the economy will depend on the response of policy to the initial disturbance and its consequences. In order to analyze the full impact of shocks more precisely, Pierce and Enzler simulate the effect of the 1973–74 increases in oil prices on the economy using a modified version of the MPS (MIT-Penn-SSRC) quarterly econometric model. They measure the effects by comparing a simulation that includes the increase in oil prices with a control simulation that excludes it. Supply shortages, such as those that occurred late in 1973, are ignored as being transient.

In the basic case considered by Pierce and Enzler, the growth rate of the money stock is left the same as in the control simulation despite the jump in oil prices. Compared with the control simulation, unemployment immediately starts to rise as real wages and consumption decline and interest rates rise moderately. In the early quarters, the rate of wage increase is not significantly altered, as the effects of higher unemployment and faster price increases almost offset each other in their impacts on wage increases. After the first year, when unemployment has risen by 0.9 point, its depressing effect predominates and wage and price increases are slower than in the control simulation. With the same money stock, eventually the economy must settle back toward the same price level, inflation rate, and unemployment rate as in the control simulation. But the process takes a long time. Unemployment is 1.6 points higher after eight quarters and is still 2.1 points higher after six years. In this basic case the authors find a remarkably long and pronounced sag in real income and employment resulting from the fuel inflation's adverse impact on real purchasing power and real liquidity.

Pierce and Enzler consider several variations on their basic case in order to test the effects of alternative governmental policies and alternative responses from various sectors of the economy. Of particular interest is the case of a monetary policy in which the money stock accommodates the initial increase in oil prices with a one-time expansion in proportion to the initial rise in the price level, and subsequently grows at the same rate as it does in the control simulation. In this case, interest rates initially decline, cushioning some of the drop in total demand and real output. Unemployment rises noticeably less in the initial quarters and over the first six years. However, the larger money stock and lower unemployment rate that prevail in comparison with the basic case permit a slightly greater rate of inflation, so that the price level is about 2 percent higher after four years. As

this case illustrates, alternative monetary policies involve some tradeoff between the conflicting goals of unemployment and price stability. Monetary policy cannot hope to insulate both the price level and real activity from exogenous shocks.

Pierce and Enzler also simulate the effects of the 1971–73 price and wage controls. They find that the controls did slow inflation, producing a price level 3.7 percent lower than otherwise would have obtained by the end of Phase II and 2.5 percent lower by the end of 1973. Controls also resulted in an unemployment rate 0.9 point lower by the end of 1973 than it would have been in their absence with the same money supply. However, they find, as Robert Gordon did in his article in *BPEA*, 3:1973, that controls held down prices relative to wages. And they fear that their removal in 1974 may reverse the benefits on inflation that were obtained by their introduction.

The second article deals with the agricultural shock to the U.S. price level. Dale Hathaway analyzes the explosion in food prices that began late in 1972, ending two decades of stability in the ratio of food to nonfood prices. During the twelve months of 1973, U.S. retail prices of food rose 20 percent, about four times as rapidly as nonfood consumer items. The food inflation felt by consumers reflected an even more pronounced jump in farm prices, which, in turn, stemmed largely from an astounding surge in world grain prices. Grains are central in importance as the staple food of less developed nations and as the basic input for livestock and poultry in industrial countries.

Hathaway argues that a combination of factors produced a flash point in world grain prices in the 1972–73 crop year. Rising affluence in the developed and developing world had generated long-run growth in demand, especially for feed grains and oilseeds used in meat production. Despite the Green Revolution, the less developed countries became larger importers of food during the sixties. Meanwhile, the major grain-exporting nations—the United States, Canada, and Australia—continued to adapt supply policy to the basic state of overcapacity with which they had begun the postwar period, even though it was gradually disappearing. Early in the sixties, the United States restructured agricultural policy, with emphasis on restricting acreage for grains and on expanding exports through subsidies as ways to work off large government-held inventories of grains. Over the decade after 1961, U.S. stocks of wheat and feed grains were cut by more

than half. The programs that subsidized farmers to hold down acreage planted for grain, which had been initiated in the mid-fifties, were intensified in the sixties, resulting in a decline of more than one-fourth in harvested grain acreage.

These policies restricting supply were maintained between 1969 and 1972, even though world grain consumption typically outran production. For example, 61.5 million acres were withheld from production in 1972, a level surpassed in only two previous years (1962 and 1966). In Hathaway's view, the United States and other grain exporters developed an "obsession" about reserve stocks. He believes that the "dangerous policy of stock reduction . . . had inevitably led, sooner or later, to events like those of the past two years."

In fact, the situation was ignited by the adverse weather conditions of 1972 that extended to South and Southeast Asia, the Soviet Union, and much of Africa. As a result, the production of wheat, rice, and coarse grains each declined; all in all, world grain output dropped 3 percent, in contrast with the normal increase of about 3 percent.

Hathaway insists that the world could have adapted fairly readily to such a one-year decline—as it had to earlier instances of adversity—if stocks had not been depleted. Given the inadequacy of stocks, however, the shortfall in output spurred enormous rises in prices, a development that demonstrated anew the extreme inelasticity of demand for grains. In Hathaway's view, the U.S. sale of wheat to the Soviet Union in 1972 was costly to U.S. taxpayers, and exerted some upward pressure on wheat prices. But he does not regard it as a major independent causal factor in the food inflation, pointing to earlier instances when Russian imports had expanded significantly without disrupting grain markets.

Although Hathaway believes that the grain prices of 1973–74 exceed levels that would match demand and supply over the long run, he regards the present food situation as precarious. Since stocks have been drawn down to extremely low levels during the past two years of shortages, any new adverse development, such as poor weather, could generate a new and intense wave of food inflation. Quite apart from such a surprise, several forces are working to bolster farm prices—or at least to prevent a return to anything like the 1971–72 levels. First, the energy crisis has swollen the costs of petrochemical fertilizers and of operating farm machinery. Second, the growth of real income and population in less developed countries is likely to continue to outpace their farm output for the foreseeable future,

making them increasingly dependent on food imports. Third and most important, partly because of food inflation and subsequent agricultural expansion, other prices and wages paid by farmers have increased sharply. These rises in farm production costs raise the ultimate equilibrium prices of foodstuffs. Because food inflation breeds nonfood inflation, Hathaway contends, an acute scarcity such as that experienced recently has a ratchet effect on prices for the long run. He urges major efforts to avoid any recurrence in the future, and especially the establishment of national or international public food reserves. Such a policy is strongly opposed by the Department of Agriculture, which favors reliance solely on private traders for holding inventories.

In the third article, Stephen Magee studies the effects of outstanding contracts on the value of U.S. imports in the months immediately following a devaluation. If the dollar is devalued, orders previously placed by Americans for products from, say, Japan with agreed prices in yen will cost more in dollars when they reach our shores. This "currency contract" phenomenon is one way in which a devaluation may make the trade balance worse for a time before it takes a turn for the better.

While many authors have conjectured about the magnitude and duration of the currency-contract effect, Magee presents the first concrete systematic evidence. He obtained information tabulated from a sample of 564 customs invoices covering U.S. imports from Germany and Japan in fiscal years 1971 and 1973. These countries are two of our most important trading partners and their currencies have appreciated particularly strongly relative to the dollar during recent years.

The magnitude of the currency-contract effect depends on the proportions of price agreements fixed in the importers' and the exporters' currency. If the price is set in dollars for any U.S. order, changes in exchange rates do not alter the dollar cost of outstanding contracts. Magee finds that Japanese sellers typically accept prices fixed in dollars, while German exporters set selling prices predominantly in their own currency. For the two fiscal years combined, nearly four-fifths of U.S. imports from Germany were priced in Deutsche marks, while only one-third of all imports from Japan were denominated in yen.

The duration of the currency-contract effect depends on the length of time between order and receipt of foreign products—the "currency-contract period." It averages about four months for Germany and four and a

half months for Japan; over two-thirds of the elapsed time is accounted for by the lag from the time of acceptance of an order to the exportation by the seller. But these intervals vary widely; in Magee's sample of invoices, the total elapsed time ranges from a few days to twenty-two months.

Magee calculates the currency-contract effect for the months following a hypothetical 10 percent devaluation of the dollar. Initially, all imports arriving here would have been contracted prior to the devaluation and all of those with prices in foreign currencies would be increased in dollar value. For imports from Japan, the aggregate dollar value is initially raised by 3.7 percent. Because of the preponderance of Deutsche mark contracts, the effect from Germany initially amounts to 7.9 percent. But, say, by the fourth month after devaluation, a substantial fraction of imports arriving here will have been ordered after the devaluation, and hence will manifest no currency-contract effect. By that time, the price impact associated with contracts outstanding at the time of devaluation is 1.8 percent from Japan and 2.2 percent for Germany, according to Magee's evidence. Magee notes that the resulting curve tracking the depressive impact on the U.S. balance of trade has the shape of a gamma (γ) rather than that of a "J," as others have conjectured.

Given the fluctuations in exchange rates that have in fact taken place, Magee estimates that the currency-contract effect added between 4½ and 9 percent to the dollar value of imports from Germany during the first three quarters of 1973. During four of the last twelve quarters, it added over 2½ percent to the dollar value of imports from Japan.

Moreover, Magee suggests that the currency-contract effect may be measured incorrectly in U.S. import data. Because the primary responsibility of the Customs Bureau is to collect revenue rather than accurate data, it tends to deny the importer any benefit of doubt and hence marks up the dollar value of imports following a devaluation even for invoices denominated in dollars. In addition, the timing of customs evaluation and the use of a rate of exchange that may diverge from the market rate introduce further errors in the measurement of import values when exchange rates change. These errors, according to Magee, have overstated U.S. imports from Japan by at least 1½ percent in seven quarters during 1971–73, with a maximum quarterly overstatement of 5½ percent. In the case of imports from Germany, the errors tend to be smaller and more evenly balanced, but may be of some significance.

All in all, Magee's findings underline the need for caution in interpreting

monthly and quarterly trade data, particularly in periods of sharply fluctuating exchange rates.

In the fourth article of this issue, William Nordhaus discusses the measurement of corporate profits and analyzes the decline in the share of profits in national income that has occurred in recent years. He first notes that measured profits, whether those in corporate reports or those in Commerce Department statistics, are affected by tax laws and accounting practices that distort comparisons through time. Nordhaus corrects for these distortions by computing what he calls "genuine income" as a measure of the return to capital in the nonfinancial corporate sector of the economy. Two main adjustments are involved in this calculation. First, interest payments of corporations are combined with their profits to allow for the rising importance of debt financing in the corporate sector. Second, depreciation charges on fixed assets and the valuation of inventories used in production are put on a replacement-cost basis rather than the historical-cost basis used in most corporate bookkeeping. Moreover, the effects of changes in tax regulations on depreciation accounting are eliminated in order to obtain a consistent series for the whole postwar period.

These adjustments are substantial. Over the postwar period, between 1948 and 1973, the ratio of corporate interest payments to corporate profits rose from 3 percent to 24 percent. The adjustment of depreciation to reflect replacement cost reduces stated profits in 1973, compared with 1948, by \$9 billion, with most of this reduction coming since the mid-1960s. And a comparable adjustment of inventories to a replacement-cost basis (the IVA adjustment used by the Commerce Department) reduces book profits by over \$17 billion in 1973, while it has negligible effects in most years before 1968.

After all adjustments, Nordhaus finds that the share of genuine capital income in total income of the nonfinancial corporate sector has dropped to 9.8 percent in 1973 from a peak of 15.6 percent in 1966. The share in 1973 is below the share in most postwar years—only slightly below most years of the fifties, but distinctly below the immediate postwar years (1948 through 1950) and most years of the sixties. Nordhaus also calculates the rate of return on corporate capital (the ratio of genuine income to the replacement costs of tangible capital) and gets a similar story. In 1973, the after-tax rate of return was 5.4 percent, compared with 10.0 percent in the mid-1960s.

In attempting to explain the behavior of capital income, Nordhaus

models both the short-run and long-run decision processes that relate prices to costs and hence determine profits. Interestingly, he finds that short-run pricing in recent years can best be explained by assuming firms suffer from “IVA illusion”—that is, by assuming that they use historical costs rather than replacement costs in their pricing decisions. But the best of his short-run explanations of pricing, which predicts price as a markup over normal unit labor costs and indirect taxes, still fails to predict the size of the decline in the genuine income share that has occurred in recent years.

Nordhaus reasons that over the longer run, decisions on investment and pricing that influence profits are governed crucially by the relation between wages and the “rental on capital,” which depends on the price of capital goods, and the cost of financial capital—the funds needed to finance them. In contrast to most other analysts, Nordhaus estimates that there is little substitution possible between capital and labor in the corporate sector aside from that which takes place more or less automatically with the passage of time and the advance of technology. Thus a decline in the rental on capital relative to wages induces investment in more capital, but results in only a very small increase in the total return to capital and a decline in its share of total output.

Armed with this analysis of production in the corporate sector, Nordhaus explains the recent decline in the share of capital, and in its rate of return, in terms of the decline in the cost of financial capital since the earlier postwar years. In turn, he attributes the decline in the cost of capital—which corresponds roughly to the rise in the ratio of stock prices to genuine profits—to a gradual reduction in the risk premium that is accorded equity investments in the United States. As fears of wide variations in economic activity and profits gradually diminished with the passing into history of the Great Depression and the considerable success of postwar stabilization policy, prices of equities rose in relation to genuine income. Thus the real return on equities (that is, adjusted for expected inflation) fell, approaching that on high-grade bonds. Investors in equities paid more for each dollar of genuine earnings; and, in Nordhaus’ view, they behaved that way because of the reduced risk of fluctuations in those earnings.

The effect of this decline in the cost of capital on the share and rate of return of genuine income was masked during the 1960s by the substantial tax benefits given to corporations through reduced corporate profits taxes, the investment credit, and liberalized depreciation allowances. These

changes initially raised the after-tax returns to corporate capital, producing the higher share of genuine income experienced during the 1960s. But by the end of the decade, the investment boom they spawned had expanded the stock of tangible capital, and the return to capital was back on its long-term trend.

The first two of the four shorter reports in this issue present contrasting views of the desirable strategy for stabilization policy in 1974. James Tobin makes the case for a more expansionary monetary policy. In his judgment, the realization of the Council of Economic Advisers' projected path of economic recovery in the second half of this year requires some decline in interest rates. That in turn requires rates of money growth that would "exceed the recommendation of the council and . . . draw screams from monetarists."

Tobin disagrees with the appraisal of business investment in the more optimistic views of the economic outlook. He doubts that outlays for plant and equipment can continue to rise strongly with today's weak stock market. Statistical predictions of investment based on the market valuation of corporate equities generate very bearish results for the coming year.

More generally, Tobin underlines the high costs and low (and long-delayed) benefits of the prescription of some monetarists for stopping inflation by holding money growth to a steady 5 to 5½ percent rate for the indefinite future. He uses two econometric wage-price models to illustrate his point. Even in the more optimistic of the two, the inflation rate remains above 4 percent for four years with such a policy, while the unemployment rate keeps rising to 7 percent. It takes four additional years to bring the inflation rate down to 2 percent.

In view of such findings, Tobin concludes that the present inflationary problem cannot be handled adequately by monetary policy alone or even by monetary and fiscal policy together. As he sees it, "the urgent matter in 1974 is to keep the fuel-food bulge in prices from escalating the rate of wage inflation." That leads him to encourage a major effort "to negotiate a social treaty with . . . labor representatives. . . ." He feels that workers might accept wage guideposts if they could be assured that the burdens of layoffs and short time would not be piled on top of the cost-of-living squeeze due to commodity inflation.

In contrast to Tobin, William Poole espouses a "steady-as-she-goes" strategy for monetary and fiscal policy in 1974. He reviews the record of

stabilization policy during the past generation and finds it sorely deficient, although distinctly superior to prewar performance. He attributes the deficiencies to two sources: inadequate professional knowledge by economists, and the constraints of the democratic political process.

Poole points with regret to his own recommendations for a gradualist but activist stabilization program in 1970 (*BPEA*, 2:1970) as “a good example of the dangers of trying to do too much at the current state of knowledge. . . .” In light of recent disappointments, he urges economists to construct policy guidelines that will be understandable to the public and practicable without reliance on timely and sensitive policy adjustments. Specifically, he proposes as guidelines a stabilized growth rate of money between 5 and 6 percent and a balance in the federal high employment budget. To achieve the latter, he points out, some tax reduction is currently in order.

The present situation does not warrant a departure from these guidelines, in Poole’s view. He feels that a policy of “steady-as-she-goes” would give the economy a chance to settle down with less inflation and the risk of, at most, a mild recession. Recognizing the risks, he urges the nation “to steer a middle course, risking a middling outcome.”

In the third report, Joel Popkin analyzes the consequences of the recent surge in the prices of raw commodities—agricultural and forest products, fuels, and other minerals. Popkin finds that wage increases and capacity utilization in primary producing industries cannot explain the explosion of raw material prices in 1973. In the absence of an adequate explanation, he takes these prices as given and, using a statistical model, traces their impact on prices of final products. He concludes that, of the 8.2 percent increase in consumer prices from the fourth quarter of 1972 to the fourth quarter of 1973, 3.7 percentage points are attributable to the impact of the surge in commodity prices over and above their trend rate of increase. For wholesale industrial prices (excluding construction materials and fuels), the raw material impact is even larger, accounting for nearly 7 percentage points of the 9.6 percent rise in this component in the four quarters of 1973. Although raw materials amount to only 7 percent of GNP, Popkin concludes that the effects of their inflation were enormous.

In the last report of this issue, Albert Fishlow examines the experience Brazil has had with indexing its economy, a policy that was undertaken in

1964 as a response to inflation. In contrast to some recent popular discussions of the Brazilian case, which picture indexing as a fairly simple and automatic adjustment mechanism for inflation, Fishlow's analysis illustrates how complicated and discretionary the Brazilian regulations have been.

Brazilian indexing, or monetary correction, was applied in some fashion to taxes, financial instruments, exchange rates, and wages. Monetary corrections in the first three—the nonwage areas—succeeded in restoring to prices and the market place the allocative role they had lost during the preceding hyper-inflation years. Interest rates and exchange rates were made meaningful once again and some workable private financial instruments were created. But nonwage indexation has served as a vehicle for government intervention rather than as a substitute for it. Export subsidies and incentives have been used alongside the crawling peg; indexing as applied to mortgage loans has undergone extensive revision at various times; tax rulings concerning financial assets have been changed, providing favorable treatment to certain assets at the expense of others.

Fishlow stresses that wage indexing was more a form of price control than a step toward better functioning markets. Instead of serving as an automatic correction for inflation, wage indexing in practice was a completely discretionary instrument of policy. It was applied with different effects on real wages in different years, and with different effects on different classes of workers. In its initial years, it produced a sharp reduction in real wages for large portions of the work force, especially low-income workers. Thus whatever restraint it had on inflation through slowing wage increases was achieved at the cost of a substantially regressive redistribution of income.

Fishlow finds little in the Brazilian experience to support a recommendation of widespread indexing for the United States. Unlike the chaotic days in Brazil, when inflation rates of 80 percent were not uncommon, markets are well developed here so that the principal contribution of indexing in Brazil—the restoration of the allocative function of prices—is not needed. Moreover, Fishlow notes that wage controls, whether disguised as indexing or presented in any other form, are bound to be unpopular, particularly if they threaten to erode real wages.