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The International Economy and U.S. Inflation

According to NBER Research Associate **Michael Darby,** adverse international developments, including increases in oil prices, have had a negligible impact on the inflationary trend in the United States. In *Working Paper No. 437,* **The International Economy as a Source of and Restraint on U.S. Inflation,** Darby contends that the inflation rate in any given period equals the difference between the average growth rate of the nominal quantity of money supplied and the growth rate of the real quantity of money demanded, with the latter depending on the rate of increase in real incomes and changes in interest rates. It follows therefore that international events can influence U.S. inflation in a permanent way only to the extent that they speed up money creation or slow down money demand.

Nonclassical economists sometimes fail to acknowledge this basic precondition for an acceleration of inflation. They seem to think that the overall inflation rate is the weighted sum of the inflation rates of individual goods and services. According to this view, a rapid increase in the price of oil will contribute to inflation more or less according to the weight that oil and allied products have in the overall price index. Such an approach confuses relative price changes with absolute changes. If the price of oil rises, other prices may fall, or rise more slowly than they otherwise would have, producing no change in the average rate of price advances. If other prices do not adjust, or adjust with a lag, unemployment will increase (unless the Federal Reserve raises the growth rate of money).

Assuming the same rate of growth of the money supply as prevailed before an increase in oil prices, a decline in the growth rate of money demand, caused by rising unemployment and pinched real incomes, will obviously speed up inflation. And a rise in the growth rate of money supply, given an unchanged rate of increase in real incomes, must have a similar effect.

According to Darby's analysis, nominal growth of the money supply in the United States has been unresponsive to oil price shocks, or to any other international events. If the dollar were not a reserve currency and exchange rates were fixed, then international events causing a U.S. balance-of-payments deficit and leading to a loss of reserves might cause a deceleration of the money supply. However, the dollar is a reserve currency, so international deficits or surpluses have no effect on the U.S. money supply, although they might have a substantial effect on the money supplies of other countries. The past tendency of British and Italian government leaders to lean toward fixed exchange rates may have stemmed from their desire to achieve an internationally induced slowing of money growth that was not possible through domestic initiatives.

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Darby's conclusions about the impact of oil, derived from careful empirical analysis, seem intuitively sound. The Fed maintained a very restrictive monetary policy during 1974, the period of the first oil price shock. It also tightened money last year (1979) as the real price of oil began rising again.

Darby also finds no evidence of a fall in the rate of growth of the demand for money as a result of changes

in the international economy. True, oil price increases caused some reduction in U.S. real incomes and productivity, but this was a once-and-for-all drop in the level of income that did not have a continuing effect on the rate of growth of income. The reason is that the United States has had only one huge rise in the price of oil, in 1974. From late 1974 to 1979, the real price of oil fell, and it has only recently recovered to the 1974 level. Hence, the effect of the oil price shock on real incomes was largely self-reversing, since prices in other sectors of the economy either decreased or rose at rates below that of the overall inflation. These adjustments in turn pushed unemployment down to normal levels and thus allowed the growth rate of real income to resume its customary climb.

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Moreover, it seems that even domestically induced changes in the rate of growth of real incomes, and therefore money demand, have not had much lasting influence on recent inflationary behavior. Over 95 percent of the variance of quadrennial inflation rates during the 1958–78 period is explained by current and lagged rates of nominal money supply alone.

Darby concludes that the recent spurt in the inflation rate cannot be blamed on OPEC. The blame for inflation, it appears, must be attributed to the easy money policies of recent years. SR

Sectoral Productivity Slowdown

In recent years, there has been a dramatic slowdown in the growth of U.S. aggregate productivity. At the same time, there have been substantial changes in the industrial composition of output, employment, capital accumulation, and resource utilization. In *Working Paper No. 423,* **Sectoral Productivity Slowdown,** Research Associate **M. Ishaq Nadiri** investigates the factors that explain the slowdown in aggregate productivity and asks whether these same factors are responsible for sectoral (that is, for individual industries') productivity slowdowns.

Nadiri uses both aggregate and sectoral data for the period 1949–78. He examines the relationship of several factors—output, employment, the capital stock, the stock of R and D (research and development), the level and rate of change of plant utilization, and a measure of technical change—to the growth of productivity.

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His particular concern is the period from 1973 or 1974 to 1978. During that period, there was a substantial reduction in the growth of capital formation and in the growth of the stock of R and D. Moreover, from 1973–78, productivity growth slowed considerably in transportation, wholesale trade, services, and public utilities. In the mining and construction sectors, productivity growth was negative. At the same time, employment growth slowed in all sectors except mining and transportation, where employment continued to grow. The growth of output also slowed in all sectors except transportation and was actually negative in construction and mining.

At both aggregate and sectoral levels, Nadiri finds that the factors that account for the growth and subsequent slowdown in labor productivity in the postwar period are: (1) growth in the capital–labor ratio; (2) growth of output; (3) utilization of existing capacity; (4) growth in the stock of R and D; and (5) the pace of technical change in some sectors. His results suggest that "it is the slow growth of capital formation, the inability of the economy and various sectors to grow on their normal growth paths, and some slowdown in the rate of technical change that go a fair distance in explaining the slowdown of productivity growth since 1973."

On the average, the slowdown in growth in the capital–labor ratio contributes about 40 percent, the slowdown in growth of demand about 35–40 percent, and the R and D slowdown about 20 percent to the retardation of growth of productivity at the aggregate level. The contribution of these factors among nonmanufacturing sectors, though, varies a great deal. On the average, about 50 percent of the slowdown of productivity growth is associated with growth in the capital–labor ratio and 25 percent with growth of demand; in the total manufacturing sector, these two factors contribute about 20 percent and 60 percent respectively. However, in some sectors such as finance, communica-

tion, and mining, a substantial residual remains to be explained. In some industries, these factors slightly overexplain the slowdown in growth of labor productivity.

Minimum Wage and Human Capital Formation

In a recent National Bureau study, **The Effects of Minimum Wages on Human Capital Formation,** *Working Paper No. 441,* Research Associate **Jacob Mincer** and **Linda Leighton** analyze the effects of the minimum wage on the two major areas of human capital formation: schooling and on-the-job training.

According to the Mincer and Leighton analysis, the minimum wage has three relevant consequences: (1) it tends to prolong schooling and to increase the number of students who work part time; (2) it reduces the pace of job advancement; and (3) it leads to an increase in job turnover among nonstudents working in low-paying jobs in which training opportunities diminish as a result of the minimum wage.

In particular, imposition or extension of minimum wage legislation increases the relative profitability of schooling, especially for workers whose wages would otherwise be below the legislated minimum. According to the authors, "the inducement into longer schooling could be strong, or stronger, among the poor." By the same token, an increase in the minimum wage is apt to increase rather than decrease welfare rolls.

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The major proposition that Mincer and Leighton analyze is that the minimum wage creates barriers to on-the-job training. New workers must ordinarily finance that training, at least in part, by accepting a lower initial wage than experienced workers, but the minimum wage may make this impossible. This barrier to job training would also tend to increase the demand for schooling. "Young persons with the ability and motivation to invest in their human capital are led to substitute longer schooling for job training," Mincer and Leighton assert.

The authors use 1973 and 1975 data from the Michigan Panel of Income Dynamics and 1967–71 data from the National Longitudinal Survey (on male nonstudents) in their evaluation. They first investigate the effects of minimum wages on wage growth. Usually, workers' wages increase over time as they accumulate skills in their careers. Mincer and Leighton postulate that "the rate of skill acquisition, hence wage growth, will be impeded by the level and coverage of minimum wages." Their results confirm this negative effect on wage growth.

Next, the authors turn to the possible link between minimum wages and job turnover. Here, however, their results are mixed, so no firm conclusions can be drawn.

Finally, Mincer and Leighton examine the relationship between the minimum wage and reported job training. They find that the minimum wage has a significant negative impact on job training, and the lower the educational level of the group being observed, the stronger and more significant this impact becomes.

In summary, Mincer and Leighton conclude that minimum wages tend to discourage job training and wage growth. Further, these effects on the minimum wage are stronger at low educational levels, particularly for those workers with less than a high school education.

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