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Oil Decontrol and the Dollar

Decontrolling oil prices provides a much larger rise in U.S. real income than conventional estimates suggest, according to **Real Exchange Rate Adjustment and the Welfare Effects of Oil Price Decontrol,** *Working Paper No. 658,* by NBER Research Associate **Paul Krugman** of MIT.

Decontrol reduces oil imports by an estimated one million barrels a day, through increased domestic supply and reduced demand. Devoting more U.S. resources to oil production is not a benefit, however, but a cost, as is using less oil. The actual social gain comes from the fact that spending less on oil imports allows a country to devote fewer resources to exports, or to spend more on imports of goods other than oil. "We value a reduction in oil imports," writes Krugman, "only because it allows the United States to export less or to import more of something else."

Lower oil imports mean less income for OPEC. Part of that lost OPEC income is reflected in lower demand for American exports, but most results in reduced OPEC demand for exports from other oil-importing countries. Since U.S. expenditures on OPEC oil fall by more than OPEC purchases from the United States, we move toward a balance of payments surplus, inducing an appreciation of the dollar. Krugman estimates that decontrol produces a 3.6 percent appreciation of the dollar.

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The stronger dollar, in turn, lowers the dollar price of oil but raises the oil price in terms of foreign currencies, reducing oil imports outside the United States. The stronger dollar also makes non-oil imports cheaper to the United States and makes U.S.exports more costly to other oil-importing nations. Oil decontrol thus improves the U.S. terms of trade—that is, we obtain more imports in exchange for our exports. Rather than simply adding to inflation, as generally assumed, decontrol lowers the cost of traded goods (including OPEC oil) by strengthening the dollar.

Conventional analysis deals only with the improved use of resources from pricing oil at the world price. With controlled prices, people will use oil in ways that do not justify its true cost, and domestic oil that would be as cheap or cheaper than imported oil will not be produced. On this basis, the rise in U.S.real income from decontrol is estimated at $1.9 billion. When the effects on the dollar and terms of trade are included, however, Krugman estimates a net gain of $7.5 billion. The usual analysis thus understates the U.S. gain by nearly 75 percent. AR

Has the Rate of Investment Fallen?

Although there has been widespread concern in recent years about the declining rate of investment in the United States, official figures from the Department of Commerce reveal that the ratio of fixed nonresidential investment to GNP was higher in 1979 than in 1969. Thus, *Working Paper No. 679* by Bureau President **Martin Feldstein** asks, once and for all, **Has the Rate of Investment Fallen?**

In fact, since the late 1960s, the ratio of *gross* fixed nonresidential investment to GNP has been relatively stable. But the ratio of *net* nonresidential investment to GNP fell by nearly 40 percent between the second half of the 1960s and the second half of the 1970s, and it is *net* investment that increases the real stock of capital.

This rapid fall in the net investment ratio corresponded to a rise in the ratio of depreciation to GNP: about 80 percent of the decline in the former was due to the rise in the latter. Feldstein shows, further, that about half

of the rising depreciation ratio was due to increases in the capital-to-GNP ratio; the other half was due to a higher rate of depreciation.

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Feldstein's data reveal two reasons for the higher rate of depreciation, each contributing in equal measure: (1) an increased share of equipment in the capital stock, and (2) an increased rate of depreciation of equipment. "Since equipment depreciates more rapidly than structures," Feldstein explains, "a shift in the composition of the capital stock from structures to equipment increases the overall rate of depreciation."

The declining fixed investment ratio is a cause for economic concern, Feldstein points out. "The sharp fall in net, fixed nonresidential investment implied an even sharper fall in the rate of growth of the net stock of nonresidential fixed capital." The growth rate of the fixed capital stock averaged 5.7 percent in the second half of the 1960s but only 3.2 percent in the second half of the 1970s.

Business Cycles and Growth

Almost everyone knows what a "business cycle" is. It is a combination of an economic boom and bust; or, in milder terms, a period of growth and of recession; or, in more technical language, an expansion plus a contraction. Less well known to the public—although an increasingly popular topic among economists—is the "growth cycle."

NBER Research Associate **Victor Zarnowitz,** in *Working Paper No. 665,* **Business Cycles and Growth: Some Reflections and Measures,** explains that the long-term growth trend may be interrupted either by a cyclical depression (or recession) or by a similarly long period of subnormal, although still positive growth (slowdown). Growth cycles are fluctuations that are similar to business cycles but are marked by deviations from trend, rather than in levels, of the major economic indicators. The process of long-term economic growth is "real" in nature: driven by increases in the quantity and productivity of human and physical resources and measured by advances in output and wealth per capita. On the other hand, the business cycle and "growth cycles" are, in the thinking of most economists, also affected by changes in monetary factors.

Zarnowitz notes that growth has been historically pervasive and persistent in the modern era. Nearly every business expansion in the United States has carried total output and employment beyond the levels reached at the peak of the preceding business cycle. Severe depressions have reduced growth strongly for some considerable time. Vigorous expansions have raised growth rates correspondingly. However, most of the no less than 33 complete business cycles in the United States between 1834 and 1975 have been mild, and few peacetime cycles resulted in major disruptions of the secular growth trend in the U.S. economy.

This does not mean, Zarnowitz continues, that growth has been uniform or that no connection exists between cyclical variability and growth. In a century of U.S. progress, he identifies four periods characterized by relatively high economic stability and four others during which stability was comparatively low. Each period includes a sequence of two, three, or four complete business cycles. For instance, he puts the 1948–69 period, which includes the Korean War and most of the Vietnam War, into the high-stability, high-growth category. The years 1969–80, however, go into the low-stability, low-growth classification. These were the years when the Vietnam War wound up but which inherited most of its delayed inflationary effect. Zarnowitz speaks of the contrast between "the turbulent 1970s, dominated by seemingly uncontrollable inflation, recessions, and energy problems, and the economically much more placid and prosperous decades of the 1950s and 1960s." His examination suggests that growth in real gross national product (the total output of goods and services) was generally higher during the multicycle periods when stability was greater. The average annual growth rate in these "good times" was 4 percent. On the other hand, both protracted high unemployment and protracted high inflation impede growth. Underutilization of productive capacity tends to reduce investment and tilt the potential output curve downward. Uneven and largely unanticipated inflation impairs the signaling function of relative prices and acts as a tax that distorts resource allocation, hinders saving and productive investment, and fosters speculative activities. In these unstable times, GNP growth was 2.6 percent on average.

During times of substantial stability and satisfactory growth, the attractive idea that the business cycle may have been conquered or rendered obsolete gains considerable publicity and acceptance, Zarnowitz notes. "Unfortunately, the 'return' of the business cycle has repeatedly proved such ideas to be pipe dreams or at least quite premature."

Nonetheless, in the quarter century after World War II, business cycles have indeed been mild by historical standards. They are of decreased frequency, duration, and amplitude. One reason for this mildness in Western Europe and Japan was the need, after the enormous destruction and deprivation of the war, to rebuild the economies and meet unsatisfied demand. Then new investment and technological progress continued

the process for a generation. West Germany experienced its first actual recession only in 1966–67.

In the United States and Canada, there also was a huge backlog of demand after the war shortages. In addition, Zarnowitz points to other factors that may explain the moderation in postwar recessions. One is the shift in the industrial composition of employment from cyclically highly sensitive sectors such as manufacturing, mining, and construction to relatively recession-proof sectors such as trade, services, and finance. Further, there have been institutional changes, notably the "built-in stabilizers" such as unemployment insurance and bank deposit insurance. Looking at the postwar period before the 1970s, Zarnowitz reckons that "discretionary fiscal and monetary policies had a mixed record [in reducing cyclical fluctuations] but not without some relative successes." But in the past decade, he finds, macroeconomic policies "oscillated between attempts to combat inflation and attempts to combat unemployment, with poor timing and for the most part indifferent or perverse results."

Zarnowitz cautions that the recent relatively good behavior of the business cycle is not irreversible. Technological changes and organized efforts could halt and reverse the shift to a service economy. Drastically different economic policies could alter the cyclical sensitivity of prices and interest rates, affecting levels of business activity.

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Looking at growth cycles—that is, deviations in growth trends that have been separated from growth changes produced by a business cycle—Zarnowitz notes that a growth-cycle downturn preceded each of the seven business-cycle peaks of the 1948–80 period in the United States. In the last three cycles (since 1969), the low-growth phases lasted as long as eight to thirteen months before deteriorating into absolute declines in output. Moreover, there were ten growth downturns in the 1948–80 period and only seven recessions. So, whereas cyclical recessions tended to be much shorter than expansions, growth cycles tend to be relatively symmetrical in the postwar period. High-growth periods lasted 22 months on average and low-growth periods 18 months. By contrast, cyclical expansions lasted 49 months on average and contractions 10 months.

Reexamining U.S. business cycles from 1834 through 1929, when economic statistics were much more scarce and much less refined than they are today, Zarnowitz finds some good reasons for suspecting that some episodes classified by the NBER as general contractions in economic activity have been only phases of below-average growth. In other words, they could have been growth cycles rather than business cycles. One clue hinting at this finding is that the early part of the NBER classification has contractions and expansions running about the same length. That is unlike the pattern of more recent business cycles. Zarnowitz concludes that even though the periods of expansion may have been underestimated in the early nineteenth-century cycles, there has still been an improvement in the nation's economic cyclical performance in the 1913–80 period. DF

Some Effects of the Minimum Wage

The minimum wage has a significant effect on employment, particularly in industries where a high proportion of workers earn the minimum, and among teenagers, according to two studies prepared for NBER's Program in Labor Studies. In **The Federal Minimum Wage, Employment, and Inflation,** *Working Paper No. 652,* NBER Research Associate **Herschel Grossman** and **John Boschen** focus on what happens to total employment, employment at the minimum wage, and average wages when the minimum wage increases. NBER Research Associate **Daniel Hamermesh,** in **Minimum Wage and the Demand for Labor,** *Working Paper No. 656,* is concerned primarily with the effect of the minimum wage on teenage employment.

Both studies show that increases in the legislated minimum wage reduce teenage employment. Grossman and Boschen find, too, that increases in the minimum wage depress employment in industries where a high proportion of workers are paid the minimum. However, they observe no effect on total employment or average wages. Thus, workers in affected industries must be finding employment elsewhere, or adults and workers in unaffected industries must be increasing their level of employment, such that total employment is unchanged.

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Recognizing that the minimum wage has a significant effect on the labor market, the two studies examine the impact of alternative approaches to mitigating this effect. Grossman and Boschen ask what would happen if the minimum wage were indexed to the average wage in the recent past. They find that the effects

on the average level and the year-to-year variation in employment at the minimum wage are not readily predictable but would depend on the chosen indexation ratio and the relation between expected and unexpected inflation in average wages.

Hamermesh considers a different issue and analyzes the effects of a subminimum wage for youths. Using 1954–78 data, Hamermesh finds that such a policy would have increased teenage employment, with, at most, a small loss of jobs among adults. Using 1979 data, he finds that a 75 percent subminimum wage for teenagers would have created at least 250,000 jobs with at most a loss of one adult job for each three teenage jobs created.

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