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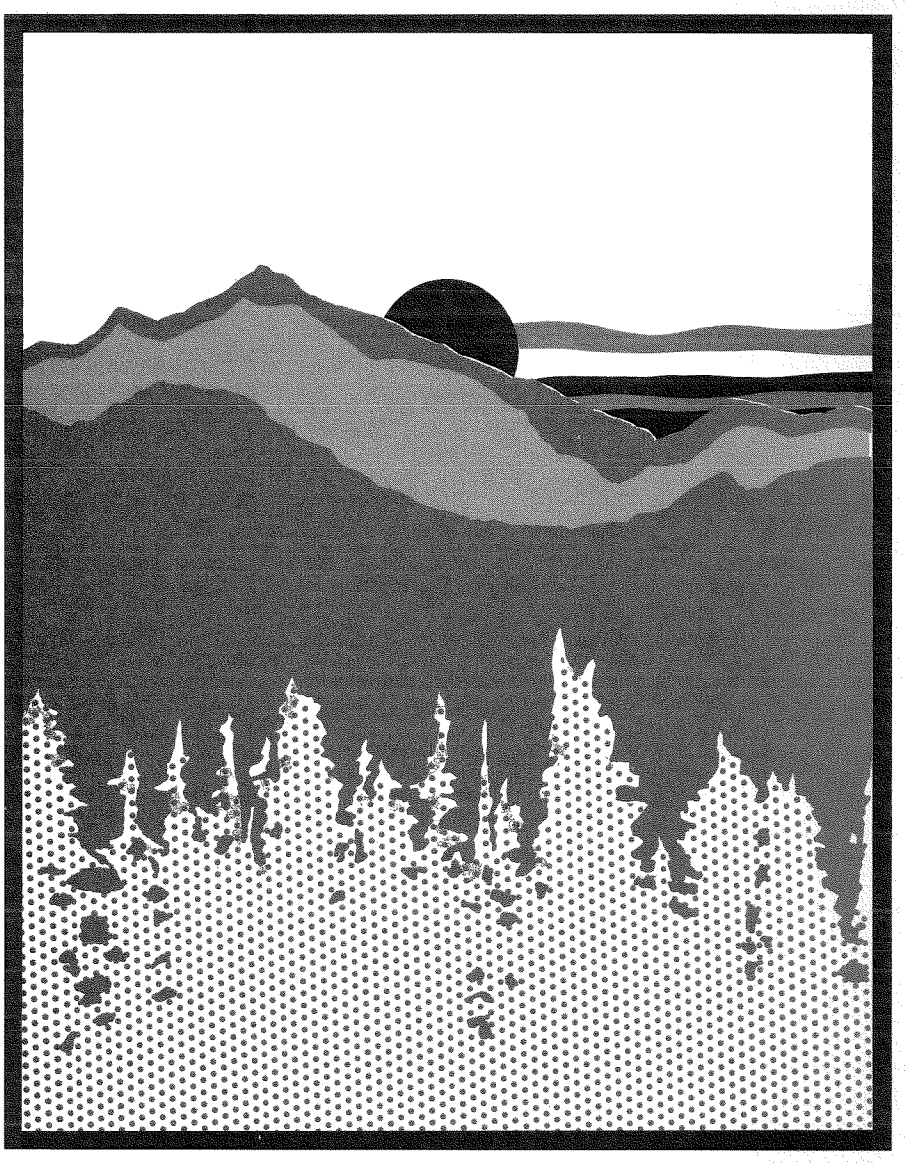
# ECONOMIC REVIEW



## Problems of Resource Utilization

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A generation ago, in an era of depression, policymakers worried about the problem of stimulating aggregate demand in a world of presumably limitless excess resources. In today's inflationary atmosphere, however, the focus has shifted. The basic problem today is finding and developing new resources and more efficiently utilizing existing resources. Analysis of these issues is complicated by the tendency of the official mind to assume implicitly that supply is somehow unresponsive to price changes. Such views are not new; for example, the U.S. Geological Survey solemnly reported in the 1880's that little if any oil would be found in Texas or California.

To further complicate today's problems, the workings of the marketplace have frequently been hampered by forces of nationalism, environmentalism and consumerism. While each of these causes has a legitimate role and wide public support, at times their achievements are costly because they involve certain economic misallocations. The articles in this review apply the tools of economic analysis to examine the costs of single-mindedly striving for nationalistic, environmental or consumer goals. The first article considers the effect of nationalism on the mining of minerals in the deep sea. The second considers the effect of environmental and consumer legislation on the management and supply of timber. The third looks at the impact of environmental legislation on the stock of capital and the productive potential of the economy. The implication of these articles is that society must balance the costs and benefits of various programs so that they cause the least disruption of the economy consistent with the maximum achievement of other goals.

In the first article, Michael Gorham examines the Jules Verne-ish notion of exploiting the industrially important minerals at the bottom of the sea. He notes that this has been by far the most difficult issue raised at the Law of the Sea Conference, primarily because of the conflicts arising among three diverse politico-economic interests represented at the conference. These interests are: 1) the industrialized countries, which would probably receive the lion's share of the benefits under a free-access framework; 2) a small number of developing countries which would suffer some losses in export revenues from their present landbased mining resources; and 3) a very large group of countries which would be essentially unaffected by ocean mining but would still like to share in the benefits of what is considered international property.

The first group stands to gain the most from a free-access, unregulated, first-come first-served framework. The second group would gain the most from a total prohibition on ocean mining. The third group would gain the most from a situation in which full seabed production was assured but all economic rent was taxed away and redistributed in some fashion. Gorham claims that the conflict between the first and third groups would be resolved if the first group would satisfy itself with only the increased consumer surplus generated by this new source of minerals, and would be prepared to give up any economic rent captured by its ocean-mining firms. This compromise would not satisfy the second group, however, unless the appropriated rents could be used to compensate its land-based mining sector.

Gorham considers several factors which determine whether some people could be made better off without making others worse off through the advent of ocean mining. In the last analysis, however, he doubts that it would be either a socially or economically progressive precedent to prevent the introduction of a new technology, if compensation of the losers proved to be administratively difficult. "Accepting the principle that prohibited any technological innovation which did not allow full compensation of the losers would be putting a strong fetter on material progress. And if one decides that material progress is a desirable thing, then it may be better to have technological change without compensation than to have no technological change at all."

In a second article, Yvonne Levy analyzes the current debate over the proper criteria to be used in managing the nation's publicly-owned forest lands so that they can meet both timber demand and other public uses. She argues that, with current levels of forestry investment and timber-harvesting policies, the U.S. demand for softwood timber may be brought into balance with supply only at substantially higher relative prices for forest products. Conservation efforts may be insufficient to reduce demand enough to ease price pressures, so that most efforts will have to come from the supply side—which means increased harvests from the National Forests because of the modest increases projected for future harvests from private lands.

Most of the current controversy centers around the "even flow" harvest policy of the National Forest Service, which aims to supply a relatively constant quantity of timber each year. Many economists argue that this approach does not accomplish its stated objectives, but rather contributes to instability in forest-community employment during periods of declining private harvests, and also aggravates the inflation in timber and lumber prices during periods of sharply rising demand. They also claim that the current "even flow" policy results in inefficient management of public lands, because it treats timber harvested 70 years from now as providing the same value to society as timber harvested today, even though the latter is immediately available to provide society with housing and other services. In this view, the introduction of economic-efficiency criteria would not increase the economic returns on publicly-owned lands but also permit far greater yields of timber and nontimber outputs than are envisioned under current management strategies.

Levy concludes that a more flexible harvest strategy, better tailored to meet the requirements of the market, is needed to alleviate the upward pressures on forest-product prices. "The use of economic criteria to determine appropriate harvest rates and investments on National Forests would seem to offer the best solution. It is certain that, through this approach, society would be able to obtain both a greater economic return on timber production and a greater set-aside of recreational land."

In a third article, David Condon analyzes the relationship between pollution-control legislation and business-investment spending. He notes that a vast body of Federal legislation has developed over the past decade to regulate industrial air, water, and solid-waste pollution. Consequently, according to the U.S. Council on Environmental Quality, the private sector's capital-investment requirements for pollution-control equipment will reach $112 billion in the decade 1972–81. He attempts in his article to estimate the extent to which pollution-control standards have protracted the investment process for five industries which account for more than two-fifths of all pollution-control spending—petroleum, chemicals, paper, steel, and nonferrous metals. Investment delays could occur because of the permit process, or because of increased investment uncertainty engendered both by the unpredictability of future legislation and the case-by-case application of pollution controls.

Condon estimated parameters for a distributed-lag investment function incorporating capital appropriations and final expenditures for two separate periods, one prior to and one following the passage of pollution-control legislation. Also, to adjust for the influence of independent events on the time lag between appropriations and expenditures, he estimated parameters for a second group of industries (such as machinery and transportation-equipment) that are less affected by pollution-control legislation.

Condon's estimates indicate that for the five industries affected by pollution-control standards, 14.9 percent of appropriated expenditures were delayed over a period of four quarters due to uncertainty and the permit process. The paper industry experienced the most severe delays with 34.7 percent of expenditures postponed over a period of five quarters, while petroleum suffered the smallest delays with 12.3 percent of expenditures postponed over a period of two quarters. "In addition to the direct pecuniary costs involved in satisfying government-mandated regulations, the lengthening of the time process of investment spending as caused by pollution-control standards must therefore be included as an important secondary cost in terms of its impact on lowering the rate of capital formation."