

manship by John W. Davis of Georgia. Davis lost his primary race in 1974 and was succeeded by James W. Symington. Symington did not seek reelection to his House seat in 1976 because he was running, unsuccessfully, for the Senate in

his home state of Missouri. His successor, Ray Thornton of Arkansas, then also served a single term as chairman because he ran for the Senate last year, also unsuccessfully.

The point is not that the subcommittee

post seems to be a jinx for those with other electoral aspirations, but that short tenure limits a subcommittee chairman in developing familiarity with programs and clout with the agencies in his jurisdiction. Furthermore, no matter how

## Battelle Forecasts Healthy Growth for R & D in 1979

Confounding grim predictions about the vitality of research and development in the private sector, Battelle Memorial Institute has forecast a healthy 14.6 percent increase in United States industry funding for R & D in 1979. Battelle, in its annual survey of R & D trends, also says the future looks rosier now than it has in the recent past. "Taken all together, real R & D effort, which had peaked in 1968 and moved more or less sideways since then, may finally be resuming a longer trend upward," the report concludes. At the same time, the report cautions that management of industrial R & D will have to improve if it is to sustain the rate of innovation desirable for worldwide competition.

Battelle predicts that industry will spend \$25 billion for R & D in 1979, 3 percent more than an earlier prediction by the National Science Foundation. Federal spending, which is expected to account for another \$25.7 billion in 1979, will rise at a slower pace: 8 percent, or precisely as fast as inflation. The study says the industry increase is sufficient,

it," says one expert. "It seems like accurate hocus-pocus."

Fisher says that the hefty increase in 1979 is the result of sustained increases in federal spending for R & D—"the performance of one sector pretty much parallels the performance of the other"—and a tremendous increase in the cash flow at many large corporations. "Inflation helped to increase their liquidity, and R & D does well in times of plentiful funds," Fisher says.

Jordan Baruch, assistant secretary of commerce and director of a current study of industrial innovation, says he is not surprised by Fisher's numbers. "I'm concerned about what the money is being spent on, however. We fear that many corporations are shifting their funds to R & D with relatively short payoffs, instead of long-term or high-risk projects. We still haven't pinpointed the relationship between what is broadly termed R & D money and eventual product or process innovation."

Fisher also expressed concern about where the money is going. "I think industrial managers may even be oversold on the idea of high levels of spending for R & D. The crucial measure is quality and not quantity," he says. Indeed, the body of the report focuses on a so-called decline in U.S. entrepreneurship, caused in part by industry's insistence on profits in the short term.

The blame for such an approach may be laid at the feet of the modern corporate manager, the report says. Several specific managerial characteristics that inhibit industrial innovation are mentioned, including:

- growth of a professional management class, much of it transient, that has no entrepreneurial stake in the business;
- executive incentive programs that emphasize "accounting" concepts of achievement (such as steady profitability and low risk-taking); and

- corporate growth through acquisition rather than innovation or expansion.

The National Science Foundation, in a recent survey of 179 companies that devote major funds to scientific research, came to the same conclusions. Resources devoted to research are coming under increasing control by top industrial management, R & D officers complained. Managements are using that control to get short-term results.

Fisher says that "regardless of what happens to the total of R & D funding, there will have to be a distinct improvement in the quality of both public and private R & D management. Both government and industry will have to undertake . . . creative changes in their management processes and policy criteria."—R. JEFFREY SMITH

*References abound concerning the "loss of leadership" by the United States. Most of them look back to the decade and a half that followed World War II, during which the United States was indisputably the leader in world technology and world trade. Our leadership rested, however, not on our being the best among equals, but on our being the only intact developed economy in a war-ravaged world. As the other developed nations—especially West Germany and Japan—rebuilt their industrial capital and reentered world markets, we inevitably lost much of our previous competitive edge. Since the rest of the world has knowledgeable scientists and engineers and energetic business leadership, we can no longer take our competitive success for granted. The United States must fight for its markets, both at home and abroad; and the best we can probably achieve in the longer term will be a parity—not a superiority—with respect to the collective rest-of-the-world. To think otherwise would be blindly and dangerously chauvinistic.*

—Battelle R & D forecast for 1979

however, to push the total to 11 percent above the combined R & D spending in 1978, providing a real growth of 3 percent. Two-thirds of this gain will be in defense-related research, following a pattern present since 1975. Energy research, which accounts for 10 percent of all spending, is predicted to suffer an actual cutback, largely due to declining financial support for the breeder reactor program.

The author of the report is W. Halder Fisher, a 64-year-old monetary theorist and business-cycle analyst who has been at Battelle for 15 years. His predictions for R & D spending have usually been within 1 or 2 percent of the eventual outcome, a record that amazes some observers because the economic model for his crystal-ball gazing is highly subjective. "No one else understands how he does