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## Effects of Cuts in Federal Support of University Research

Universities are dependent on federal funds. Some state-supported schools derive 30 percent of their total budgets from the federal government. Science departments of such institutions obtain most of the money needed for graduate training as a by-product of support for research. Many private institutions are heavily dependent on government funds. Some obtain more than 80 percent of their budgets from Washington. Funds for the conduct of research and for graduate training at even the highly endowed schools come almost entirely from federal sources.

With this background in mind, I recently asked administrators at 12 great universities for their estimates of the effects of proposed cuts in the federal support of research. All responded frankly and indicated that the consequences of cuts had been under study at their institutions. They were gravely concerned and felt that heavy damage to their schools and to higher education might occur. All agreed that they would give a high priority to meeting commitments to their staff and said that, even if there were no federal funds for research, they would provide for the tenured faculty. The reduced population of graduate students on campus next year will probably be supported. Most vulnerable to effects of cuts are the postdoctoral fellows and technical supporting staff. A cut in federal support would result in a much larger drop in research output. Postdoctoral fellows are among the most creative scholars on campus. Without supporting technical staff, the complex equipment vital to modern research would be inefficiently used. Operating under restricted budgets, the professors would eschew chancy initiative involving new equipment in favor of safe investigations employing items already at hand.

While the most disruptive effects of a budget cut would be manifest in the science departments, the entire faculty would feel stringency. For example, at one top private university, the annual cost of operating the computer center is \$3 million. This cost, which is highly inelastic, is met by users supported on government grants and contracts. A drop in federal funds would exacerbate the institution's deficit during the next fiscal year. The deficit would deepen for another reason. The university is geared to handle a certain volume of activity. It will be difficult to reduce overhead costs quickly enough to avoid further deficits if federal funds are diminished.

At a number of large state universities, overhead from federal grants has had catalytic effects. Legislators are willing to pay for cutting the grass but not to provide for large items of equipment or funds for new initiatives. Some university administrators have been able to retain control of overhead on grants. These funds have been used for computer facilities, matching funds for construction of science buildings, and even support for the humanities. One vice president told me that a first casualty resulting from a drop in support of the physical sciences would be new studies of urban problems.

Federal support of research buys more than research. It pays for graduate education, leads to improved teaching of undergraduates, and facilitates initiatives. In deploring budget cuts, university administrators have a good case, and they should be listened to.—PHILIP H. ABELSON