Small Firms to Get Guaranteed R & D Support

The House has passed a bill that sets aside a share of federal R & D funds for small firms; it is now expected to become law

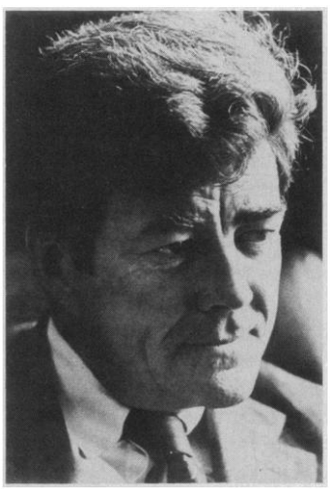
Much to the chagrin of university groups, small businesses are about to get a guaranteed share of the federal government's research and development budget. A slice of money, amounting to some $400 million a year by 1986, will be taken from the regular budgets of the major federal research agencies and put into new programs designed to spur innovation by small businesses.

Legislation creating this small business "set aside" was approved overwhelmingly by the House of Representatives on 23 June, and its final passage into law is now virtually guaranteed. The Senate passed a similar bill late last year by a vote of 90 to 0, and President Reagan, against the advice of his science adviser, has already indicated that he supports such a measure.

Passage of the bill by the House provides a good demonstration of the power of the small business lobby on Capitol Hill. Its vigorous campaign in support of the legislation easily overcame stiff opposition from organizations representing academic institutions and strong objections from some powerful committee chairmen. Supporters of the bill had no difficulty in defeating a series of amendments that would have softened its impact, and although many congressmen said they dislike the whole idea of set asides, they voted for the bill anyway.

In essence, the legislation requires each federal department or agency that disburses at least $100 million a year in R & D grants and contracts to establish a so-called Small Business Innovation Research (SBIR) program. These programs, which are designed to support mostly applied research, will not have to go through the burdensome and uncertain process of competing for funds: The bill guarantees them a fixed share of each research agency's extramural R & D budget—0.2 percent next year, rising to 1.25 percent in fiscal year 1986. [The Department of Defense (DOD) will get an extra year to complete the process.] These funds will be set aside exclusively for small businesses with fewer than 500 employees, but there is nothing in the bill to prevent such firms from competing for other R & D grants and contracts. (The Senate bill is broadly similar to the House version, except that it requires a minimum set aside of 1 percent.)

Why has small business been singled out for such favorable treatment? Supporters of the bill argue that in spite of numerous studies that show small high-technology firms to be important sources of innovation, such firms have not been getting their fair share of federal R & D grants and contracts. "Federal R & D agencies have long neglected and ignored small science and high-technology firms," says Representative John LaFalce (D–N.Y.), the chief sponsor of the House bill. Consequently, he argues, the only way to redress the balance is to force agencies to set aside a fixed share of their R & D funds for small businesses.



Representative John LaFalce (right): "Federal R & D agencies have long neglected small science and high-technology firms." Representative Paul McCloskey (left): "We are assigning diminishing R & D dollars to one of the most flourishing parts of the small business community. It does not make sense."

Opponents have taken issue with that rationale, however. They point out that small firms employ about 5.5 percent of the country's scientists and engineers, and receive between 4 and 6.8 percent of the federal government's research grants and contracts. (The exact amount depends on whose figures are used.) Moreover, they argue, the venture-capital markets are now brimming with money, and high-technology firms are having little difficulty attracting capital. "At a time of diminishing research dollars we are assigning some of those dollars to one of the most flourishing parts of the small business economy. It does not make sense," argues Representative Paul N. (Pete) McCloskey, Jr. (R–Calif.), who led opposition to the bill in the House.

University spokesmen have more down-to-earth problems with the bill. They fear that it will take money away from support for academic research at a time when research budgets are already seriously strained. Passage of the legislation could "seriously damage the conduct of basic research," five university presidents warned in a letter to members of Congress last December. Part of their concern stems from the fact that although 1.25 percent of the federal R & D budget sounds like a tiny amount, its impact could be magnified in some areas. Most agencies, for example, have a large fraction of their budgets already committed to existing projects, and thus will be forced to take the small business set aside largely from new projects. The $37 million that NIH will eventually have to set aside, for example, will probably come from support of new and competing grants. The bill does specify, however, that basic research funds must not be cut by more than 1.25 percent to pay for SBIR programs.

The universities' concerns about loss of funds did not cut much ice with supporters of the bill, who said it sounded like special pleading from a privileged sector. "There is a virtual symbiotic relationship that exists between the NIH in particular and the university community," LaFalce argued during floor debate on his bill. "They feed off each

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other, and we are saying feed all you want, but 1.25 percent, let us set that aside for innovative competition and research."

In spite of the lopsided final vote in favor of the bill in the House—it was passed by 353 votes to 57—it did not encounter entirely smooth sailing. It was approved unanimously last fall by the House Committee on Small Business, but six other committees asked for a chance to review the bill before it reached the House floor. They all expressed reservations about the measure and proposed amendments that would have weakened, or crippled, it. The House Armed Services Committee, for example, voted to exclude the Department of Defense from the set aside program, and an amendment to that effect was proposed during the House debate. It was defeated by 295 votes to 80.

The House Committee on Energy and Commerce tried to do the same for the Department of Health and Human Services. That move failed by a vote of 193 to 164, the closeness of the vote indicating that some powerful lobbying groups such as the American Medical Association and the American Cancer Society wanted to exempt NIH from the set aside. They proved to be less powerful than the small business lobby.

What many considered the most important amendment came from the House Committee on Science and Technology. In essence, it would have required research agencies to establish SBIR programs, but their funding would have been determined through the usual appropriations process rather than by a fixed set aside. It was proposed on the House floor by science and technology committee chairman Don Fuqua (D–Fla.), who argued that authorizing committees should have the ability to apportion money according to the relative merits of different programs. Since the chairmen of several authorizing committees had tried to exempt agencies under their purview from the bill, however, doubts were raised about how well SBIR programs would fare in their committees. Fuqua's amendment was thus squashed by 290 votes to 118.

All that is left now is for differences between the House and Senate bills to be reconciled and for Reagan to append his signature to the measure. Few difficulties are expected at either stage. The differences are relatively minor, and Reagan publicly backed the Senate bill last year just a few days after an official of the Office of Science and Technology Policy had testified against it.

—COLIN NORMAN

Academy Boosts Social Sciences

It would seem strange that in a complex, information-based society such as the United States there would be any doubt about the value and utility of the social sciences. But, given the Reagan Administration's attempts to slash spending on social science research, it may be appropriate that the National Academy of Sciences has produced a report* that roundly endorses the social and behavioral sciences.

The Committee on Basic Research in the Social and Behavioral Sciences, chaired by Robert McCormick Adams of the University of Chicago, after 2 years of work, has come up with a very general product. But its survey of the development of such fields as sample surveys, standardized testing, child development, and voting behavior make it clear that the work of social science has become inextricably woven into the business of government and industry.

The social and behavioral sciences have been the object of two mutually contradictory types of criticism. One is that they document the trivial and obvious—the kind of knowledge that common sense can easily supply. The other is that, since the subject is human behavior, the social sciences are dangerously susceptible to being employed for harmful social manipulation.

As Kenneth Prewitt of the Social Science Research Council explained to *Science*, the latter criticism fails to distinguish between social science and the political process. After all, Prewitt pointed out, China and the U.S.S.R. have highly manipulative governments and very little social science research. He might have added that if knowledge is power, knowledge from the physical sciences has probably contributed far more than has social knowledge in enabling evil leaders to manipulate their subjects.

As for the first criticism, Prewitt argued that the tools of social science can be seen as an extension of common sense, just as the tools of natural science extend the five senses. Moreover, "common sense" is not a fixed perception but constantly changes with new knowledge. Many past findings from the social sciences, now occupying the realm of common knowledge, were counterintuitive when first documented. For example, he said, common sense might have predicted that social disruption and upheaval would lead to panic and the disintegration of society. But, in fact, studies of the impact of carpet bombing during World War II showed that such disruption leads to a high degree of social bonding. Another example Prewitt gave was education, which some have argued is a tool for perpetuating the status quo. But social science has shown that education is indeed a democratizing influence by facilitating social mobility.

The report is aimed at dispelling the persistent notion that social sciences are not really science. Academy president Frank Press said, that on the contrary, "social sciences follow the scientific method and even understand it better perhaps than the physical sciences do." That is because there is a large degree of randomness in outcomes and careless methodology can render studies useless.

It is difficult to put together a punchy report on the social and behavioral sciences because their influences are felt over a long term and often indirectly. The modern American vocabulary now contains hundreds of terms generated by the social sciences—such as "quality of life," "unemployment," "alienation," "stagflation," which represent concepts that are now embedded in the public consciousness. As the report puts it, the way policy-makers often use social science research "is not deliberate, direct, and targeted, but a result of long-term percolation of social science concepts, theories, and findings into the climate of informed opinion. . . ."

The committee's report is not a document designed to supply defenders of social science with snappy anecdotes to counter attention-getting criticism such as that emanating from Senator William Proxmire (D–Wisc.), author of the famed Golden Fleece Award. Rather, explains Prewitt, it is more likely to have a trickle-down effect by reinforcing the confidence of investigators themselves in the worthiness of their enterprise.—CONSTANCE HOLDEN

**Behavioral and Social Science Research: A National Resource* (National Academy Press, Washington, D.C., 1982).

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