United States General Accounting Office

GAO

Briefing Report to Congressional Requesters

July 1987

FEDERAL RESEARCH

Small Business Innovation Research Participants Give Program High Marks

GAO/RCED-87-161BR

United States
General Accounting Office
Washington, D.C. 20548

Resources, Community, and
Economic Development Division

B-209790

July 27, 1987

The Honorable Dale L. Bumpers
Chairman, Committee on Small Business
United States Senate

The Honorable John J. LaFalce
Chairman, Committee on Small Business
House of Representatives

The Honorable Robert A. Roe
Chairman, Committee on Science, Space, and Technology
House of Representatives

The Honorable John D. Dingell
Chairman, Committee on Energy and Commerce
House of Representatives

As part of our continuing responsibilities under the Small Business Innovation Development Act of 1982 and under the act as reauthorized in 1986, we obtained certain information on the firms participating in the Small Business Innovation Research (SBIR) program through a questionnaire survey. This briefing report, one of a series of reports we have issued on the program in the past 2 years, presents the results of our survey. As required by the act, we will issue a report by December 31, 1988, evaluating the overall effectiveness of the program.

This report discusses

-- the characteristics of SBIR recipient firms,

-- the reported effects of the program on firms' operations and products, and

-- firms' perceptions of the administration of the program.

The information presented in this report is based on the results of a questionnaire administered in 1986 to firms responsible for 1,405 SBIR projects. Of the 1,405 questionnaires, 1,137 were returned, yielding a response rate of 81 percent. The responses represent 79 percent of

the SBIR projects funded in fiscal years 1983 to 1985. Because our sample was based on projects rather than firms, 162 firms received two or more questionnaires. In total, 792 firms responded to our questionnaire.

The survey findings are briefly discussed below. Sections 2 to 5 of this report provide additional details. Section 1 provides a detailed description of our methodology.

Survey responses showed that many new and emerging firms have received funding under the SBIR program. Survey data indicated that:

-- SBIR projects are being undertaken by relatively new firms. More than 50 percent of the projects we sampled were being carried out by firms less than 8 years old and almost one fourth were undertaken by firms less than 3 years old. The responses also indicated that the average age of firms participating in the program was about 7 years.

-- Almost 60 percent of the projects were carried out by firms that employed 25 or fewer full-time employees and more than one fourth had 5 or fewer full-time employees. Overall, SBIR firms employed an average (median) of 15 full-time employees.

-- Most of the projects in our sample were carried out by firms that were relatively small in terms of revenues. Over one half of the projects were undertaken by firms that had gross revenues of less than $1 million in fiscal year 1985, and 18 percent of the projects were being carried out by firms that had gross revenues of less than $100,000.

Almost all survey respondents indicated that their participation in the SBIR program was worthwhile, and nearly all of the responses show that the program encouraged small businesses to participate in government research and development (R&D) programs. The small firm respondents indicated that they received a variety of benefits from participating in the SBIR program. These benefits included, but were not limited to,

-- hiring more personnel as a result of the SBIR award,

-- funding R&D work that was not being funded by another source, and

-- improving other products as a result of R&D work on the SBIR project.

The SBIR program provided funding to many firms that had not received previous federal R&D contracts. For 43 percent of the projects we sampled, the SBIR award represented the firm's first federal R&D funding in the last 5 fiscal years. Our analysis showed that of the projects carried out by firms established between 1983 and 1986, 71 percent were carried out by firms that had not previously received a federal R&D award.

Since phase II[1] awards were not generally granted until fiscal year 1984, it was too early for most firms to have proceeded to the commercial marketing of project results at the time we sent our questionnaires. For this reason, we could not conclusively assess the success of SBIR project commercialization. However, survey responses show that 11 percent of the projects receiving a phase II award had completed the phase, and of these, less than half had results available for commercial sale.

Survey responses indicate that most program participants are generally satisfied with federal agencies' administration of the SBIR program. Almost all respondents who had participated in other federal R&D programs indicated that the paperwork requirements of the SBIR program and the amount of time required to prepare an SBIR proposal were about the same as or less than were required by the other federal R&D programs. The one area where more than one half of the respondents expressed considerable dissatisfaction was the gap in funding between the end of phase I award and the onset of phase II support. The gap in funding varied by

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[1]Each year, federal agencies with SBIR programs solicit research proposals and select a limited number for phase I funding. Phase I awards are given to demonstrate the scientific and technical feasibility of an idea. All phase I awardees can compete for a phase II award, and agencies make phase II awards to those judged to be the best of the phase I awardees. Phase II work is to further develop the phase I research.

agency, and for a majority of the sampled projects the gap ranged from 3 to 12 months.

Because the funding gap was the only area with which respondents expressed a general dissatisfaction, we obtained additional information regarding the length of the funding gap from federal officials responsible for four federal agencies' SBIR programs. These four agencies accounted for about 80 percent of SBIR funding provided in fiscal year 1985. We found generally the same gap between phase I and phase II payments identified by respondents. As discussed in section 5, three of the four agencies are already taking steps to reduce the funding gap. Specifically, the Department of Energy, which initiated an early decision program and provides interim funding, has achieved the greatest success in reducing the funding gap. Techniques such as these could be useful to other agencies.

We discussed the information obtained during our review with agency program officials and have incorporated their comments where appropriate. We are sending copies of this report to the small firms who participated in this study, the federal departments and agencies that administer SBIR programs, and other interested parties upon request. Should you wish additional information on this matter, please contact Mark Nadel at (202) 634-6073.

Major contributors to this briefing report are listed in appendix III.

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