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To the House of Representatives
Committee on Small Business
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Good morning Chairman Graves and members of the Committee. My name is David Audretsch, and I am a professor at Indiana University. My research specialty has been on small business, entrepreneurship, innovation and the role of public policy. I also serve on the Committee for Capitalizing on Science, Technology, and Innovation: An Assessment of the Small Business Innovation Research Program, which oversees the work done by the National Research Council of the National Academy of Sciences in assessing and evaluating the impact of the Small Business Innovation Research Program (SBIR).

Our current economic malaise is not the first time that the U.S. has faced serious economic challenges. Like now, the decade of the 1970s was characterized by sluggish growth, persistent high rates of unemployment, and inadequate rates of job creation. In response to these economic problems, the Congress enacted the Small Business Innovation Research Program (SBIR) in 1982 with an explicit goal of reinvigorating jobs and growth through enhancing the innovative capabilities of the United States. In particular, the explicit mandate created by the Congress was to (1) promote technological innovation; (2) enhance the commercialization of new ideas emanating from scientific research; (3) increase the role of small business in meeting the needs of federal research and development; and (4) expand the involvement of minority and disadvantage persons in innovative activity.

The SBIR program functions through the 11 federal agencies which administer the program and award around $2.5 billion annually for innovative activity by small business. Qualifying small business is eligible to apply for grants from the participating federal agencies ranging from $150,000 for a Phase I award, to $1,000,000 for a typical Phase II award.

The Economic Benefits of the SBIR Program

The impact of the SBIR program has been analyzed in considerable detail in a series of meticulous studies undertaken by the Board on Science, Technology and Economic Policy of the National Research Council of the National Academy of Sciences, as well as in a number of important studies by university scholars. After reviewing these studies, I can summarize with confidence that the SBIR has generated a number of substantial benefits to the U.S. economy. The country is no doubt more innovative, more competitive in the global economy and has generated more and better jobs as a result of the SBIR. What gives me so much conviction concerning these studies is the robustness of the findings. Studies with disparate methodologies, ranging from case studies of recipient SBIR firms, to interviews with program administrators at the funding agencies, to systematic analyses of broad based surveys of firms, and to sophisticated econometric studies based on objective measures comparing the performance of recipient SBIR firms with control groups consisting of matched pairs that did not receive any SBIR support all point to the same thing – the SBIR has made a key and unequivocal contribution to the innovative performance of the United States, especially in terms of technological innovation.

In particular, a number of key benefits emanating from the SBIR program can be identified from the literature. The key economic benefits accruing from implementation of the SBIR are most compelling in terms of two of the objectives stated in the Congressional mandate – the promotion of technological innovation, and increased commercialization from investments in research and development

There is strong and compelling evidence that the United States is considerably more innovative as a result of the SBIR program than it would be without the SBIR program. Empirical evidence suggests that:

- **Recipient SBIR Firms Are More Innovative**. Existing small business is more innovative as a result of the SBIR program. A meticulous study undertaken by the National Research Council of the National Academy of Sciences found that around two-thirds of the projects funded by SBIR grants would not have been undertaken in the absence of SBIR funding.[1] The same study also identified a remarkably high rate of innovative activity emanating from the SBIR funded projects. Slightly less than half of the SBIR funded projects actually resulted in an innovation in the form of a new product or service that was introduced in the market. Such a high rate of innovative success is striking given the inherently early stage and high risk nature of the funded projects.

- **The SBIR Has Generated More Technology Based Startups.** The SBIR program results in a greater number of technology based firms. One key study found that over one-fifth of all recipient SBIR companies would not have existed in the absence of having received an SBIR award.

- **Recipient SBIR Firms Have Stronger Growth Performance**. Studies consistently find that firms receiving SBIR grants exhibit higher growth rates than do control groups control of matched-pair companies.

- **Recipient SBIR Firms Are More Likely to Survive**. The early phase for technology entrepreneurial ventures has been characterized as "the valley of death". The empirical evidence suggests that the likelihood of survival for young technology-based SBIR recipients is greater than for comparable companies in carefully selected control groups.

In terms of enhancing the commercialization emanating from the country's expensive investments in research and development, systematic empirical studies reveal that:

- **The SBIR Has Resulted in Greater Commercialization of University-Based Research**. Empirical evidence points to a high involvement of universities in SBIR funded projects. One or more founders have been employed at a university in two-thirds of the SBIR recipient firms. More than one-quarter of the SBIR funded projects involved contractors from university faculty.

- **The SBIR Has Increased the Number of University Entrepreneurs.** Studies find that scientists and engineers from universities have become entrepreneurs and started new

[1] National Research Council, *An Assessment of the SBIR Program*. C. Wessner (ed.), Washington, D.C.: National Academies Press, 2008.

companies who otherwise might never have been entrepreneurial. Some of these university-based entrepreneurs are involved in firms that have received SBIR grants. Others have been inspired to become entrepreneurs as a result of learning about the efficacy of becoming an entrepreneur from the observed success and experiences by observing their colleagues who have been involved with SBIR funded companies.

Qualifications and Concerns

Despite the compelling empirical evidence of the strong and significant impact the SBIR program has had on the innovative performance of the United States, I should stress several key qualifications and concerns

- **The Congressional Goal of Increasing the Participation of Minorities and Disadvantaged People in the Process of Technological Innovation Remains Undeveloped.** Female participation has increased only marginally over time. SBIR Phase II awards to women increased only from 8 percent of the total awards in the early 1990s to 9.5 percent between 1999 and 2001. Minority participation has actually decreased over time. Minority owned firms fell to below ten percent for the first time in 2004, and this trend has subsequently continued. Creative ways to enhance the inclusion of previously largely excluded groups in the population, and in particular women and minorities in the SBIR, program will enhance the innovative performance of the United States

- **SBIR Awards Remain Geographically Concentrated in Just a Handful of Regions.** Increasing the participation of SBIR awards outside of these innovative clusters will make a significant contribution to facilitating innovative activities, not just in these regions, but ultimately in the entire country.

Summary

This decade has seen a receding performance of U.S. global leadership of innovation. Globalization means that the U.S. has lost its once near monopoly in terms of technological and innovative leadership. The SBIR has a central role to play in contributing to a renewed U.S. global technological leadership and ensuring that the United States is securely encased as the global innovative leader.

Nearly three decades have transpired since the enactment of the SBIR by the Congress. This has provided an adequate basis for in depth and careful independent scrutiny analyzing the impact of the SBIR program on the United States. The evidence accumulated from a broad spectrum of studies utilizing divergent methodologies all comes to the same result – the SBIR program has unequivocally made an invaluable contribution to the innovative performance of the United States. However, as global competition intensifies, the SBIR program must continue to be adjusted and improved in order to generate the innovative performance and ultimately renewed global leader that this country deserves and of which it is capable.