

*Research Funding as an Investment: Can  
We Measure the Returns?*

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**RESEARCH FUNDING AS  
AN INVESTMENT: CAN WE  
MEASURE THE RETURNS?**

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**A TECHNICAL MEMORANDUM**

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## Foreword

The mounting intensity of global competition in the 1980s underscores the critical role played by the basic research enterprise of the United States. Basic research is the backbone of much of the technological development that has provided not only our economic prosperity, but improvements in health, a strong national defense, and exciting and fundamental advances in knowledge.

Congress is faced with difficult decisions regarding funding for research. The House Science Policy Task Force asked OTA to provide information on the extent to which decisionmaking would be improved through the use of quantitative mechanisms associated with the concept of investment. If investing in science is similar to investment in the financial sense, can the returns be meaningfully predicted and measured? Can reasonable investment criteria be devised? OTA concluded that while there are some quantitative techniques that may be of use to Congress in evaluating specific areas of research, basic science is not amenable to the type of economic analysis that might be used for applied research or product development. OTA also concluded that even in the business community, decisions about research are much more the result of open communication followed by judgment than the result of quantification.

Much of the vitality of the American research system lies in its complex and pluralistic nature. Scientists, citizens, administrators, and Members of Congress all play various roles leading to final decisions on funding. While there may be ways to improve the overall process, reliance on economic quantitative methods is not promising. Expert analysis, openness, experience, and considered judgment are better tools.

A handwritten signature in black ink, reading "John H. Gibbons". The signature is fluid and cursive, with the first letters of the first and last names being capitalized and prominent.

JOHN H. GIBBONS  
*Director*

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