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Science Policy and Tight Budgets

Budgets are easy to develop when major increases are possible. When money is tight the choices are harder, and the results reveal more about priorities. How was the fiscal year 1986 budget for the National Science Foundation developed, and what does it say?

This budget reflects a particular world view: essentially that the nation faces tough economic competition and that our competitors are challenging our research preeminence in important fields. In response we must do whatever is necessary to maintain—and, where possible, to improve—the ability of our universities to do basic research in the most important areas.

This world view and NSF's general responsibility for the health of basic science and engineering led us to three major priorities: (i) programs that are most directly related to economic competitiveness, (ii) science and engineering infrastructure, and (iii) disciplines for which NSF has a special responsibility.

We are seeking a substantial increase for engineering, which will be allocated $170 million, up 13 percent. Much of this will be concentrated in engineering research centers, which will contribute directly to the research and personnel base that American industry needs to compete in world markets. For similar reasons, we also seek significant increases in biotechnology, earth sciences, and advanced materials research.

Infrastructure is the people, equipment, and instrumentation that are available for research. The people are by far the most important, so in science and engineering education we are emphasizing stability and the orderly rebuilding of quality programs. The budget is constant at $82 million. Graduate students and postdoctoral fellows supported on research funds will rise 4 percent to more than 14,000.

We will continue major support for equipment and instrumentation: a total of $271 million, up 13 percent. We will also continue the priority established in 1984 to provide access to supercomputers for academic researchers. In 1986 this will take almost $46 million, a 12 percent increase, but will provide opportunities to study entirely new classes of problems.

Finally, we are providing strong support for basic research, with emphasis on disciplines for which NSF has special responsibility because it is the major source of federal support. This category includes core mathematics, environmental biology, and social and economic sciences. All these receive substantial increases.

These increases will require decreases elsewhere. We have proposed them in areas no longer quite so timely or productive, or which should attract other support. These occur throughout NSF.

In addition to the quantitative changes, some things will be qualitatively different in 1986. We are continuing a strong effort to increase cooperation between universities and industry. This is especially true in several programs: engineering research centers, presidential young investigators, and science and engineering education.

We are also emphasizing large-scale coordinated research a bit more than in the past, although 70 percent of the funds in the research directorates will continue to go to individual investigators; this compares with an average of 73 percent in recent years.

Economic competitiveness, cooperation, and infrastructure are thus the major themes for NSF in 1986. In addressing them we continue to strengthen our research universities, which are ultimately our greatest resource in science and engineering. These are the right priorities for these times, and we can do well by them even with an austere budget.—ERICH BLOCH, *Director, National Science Foundation, Washington, D.C. 20550*