Order Code IB10088

CRS Issue Brief for Congress

Received through the CRS Web

Federal Research and Development: Budgeting and Priority-Setting Issues, 109th Congress

Updated October 31, 2005

Genevieve J. Knezo
Resources, Science, and Industry Division

CONTENTS

SUMMARY

MOST RECENT DEVELOPMENTS

BACKGROUND AND ANALYSIS
- R&D Budgets
  - FY2004 Budget
  - FY2005 Budget
  - FY2006 Budget Request
- Priority-Setting Issues
  - Trends in R&D Support Patterns
  - Observations on the Role of the Federal Government in Supporting R&D
- Priorities Among Fields of Federally Funded Research
  - Congressional Views About the Balance in Federal R&D Funding
  - Professional Groups' Views About Balance
  - Legislative Proposals to Broaden Incentives for Private R&D
  - NSF Funding
  - Homeland Security R&D Funding
- Federal R&D Priority-Setting Structures
  - Unified Federal Science and Technology (FS&T) Budget
  - Interagency R&D Initiatives
  - Proposals to Coordinate Federal R&D
  - Legislation on Technology Assessment
  - Earmarking
  - Government Performance and Results Act (GPRA) and Performance Assessment Rating Tool (PART)

Federal Research and Development: Budgeting and Priority-Setting Issues, 109th Congress

Summary

Federal research and development (R&D) funding priorities change over time, reflecting Presidential policies and national needs. Defense R&D predominated in the 1980s, decreasing to about 50% of federal R&D in the 1990s. In non-defense R&D, space R&D was important in the 1960s as the nation sought to compete with the Soviet Union; energy R&D was a priority during the energy-short 1970s, and, since the 1980s, health R&D has predominated in non-defense science. Defense R&D and homeland security R&D funding are also now prominent.

Requested at $132.3 billion of budget authority, the FY2006 R&D budget proposes to keep both defense and non-defense R&D funding about the same as last year, which would reduce funding in terms of constant dollars, if inflation is considered. About 57% of the request is for defense R&D and about 21% is for biomedical R&D at the National Institutes of Health (NIH). Increases were requested for R&D in the Department of Transportation (DOT), the National Aeronautics and Space Administration (NASA), the Department of Homeland Security (DHS), the National Science Foundation (NSF), and NIH. The Defense Department's (DOD) R&D budget would be increased by 0.1%, but reduced in constant dollars. Three appropriations bills with R&D funding have been passed: for the Departments of Homeland Security and the Interior, and for the Environmental Protection Agency.

FY2005 R&D appropriations totaled $131.8 billion, with 57% going to defense R&D. Because of pressures on the discretionary budget, R&D funding was increased slightly, about 5% over FY2004 and about 0.3% for nondefense R&D. Final appropriations action showed the largest increases were for R&D in DHS, NIH, DOD, Agriculture, and DOT.

Estimated FY2003 expenditures for national (public and private) R&D of $283.8 billion continue to grow. Federal R&D expenditures, at $85.2 billion, have grown, but declined to 30% of the total. Debates focus on which fields of federal R&D should be increased, how to set priorities, and how to "balance" health and nonhealth fields. There are proposals to increase incentives for industrial R&D, including H.R. 1454, H.R. 1736, S. 14, S. 387, and S. 627, which would make permanent the R&D tax credit.

The FY2006 budget would fund three interagency R&D initiatives: networking and information technology; climate change science; and nanotechnology. There are proposals to coordinate R&D, including a continuing priority-setting mechanism; a cabinet-level S&T body; functional R&D budgeting; and reestablishment of a technology assessment function.

The Administration opposes R&D earmarking, estimated at $2.4 billion in budget authority for FY2005. The Administration is using performance measures for R&D budgeting, including tools of the Government Performance and Results Act and the Program Assessment Rating Tool. Some critics say better data and concepts are needed to use performance budgeting for basic and applied research.

MOST RECENT DEVELOPMENTS

Three appropriations bills with R&D funding have been passed: for the Departments of Homeland Security and the Interior, and for the Environmental Protection Agency. The House-passed appropriations bills for FY2006 put R&D funding at $2.8 billion more than requested, with the increase largely for defense R&D. Total non-defense R&D funding was essentially flat in the House, although the House increased non-defense R&D funding in five agencies: the Department of Agriculture (USDA), the Department of Energy (DOE), the National Aeronautics and Space Administration (NASA), the Environmental Protection Agency (EPA), and the Department of the Interior. Senate action increased R&D more than the House, with, among the largest agencies, more funding for National Institutes of Health (NIH) R&D and less for Department of Defense (DOD) R&D, but with major differences between the House and Senate on specific R&D programs. A continuing resolution funds FY2006 programs whose funding was not yet appropriated.

BACKGROUND AND ANALYSIS

Federal R&D funding priorities have shifted over time, reflecting Presidential preferences, congressional appropriations, and national priorities. Defense R&D predominated in the 1980s but decreased to about 50% of total federal R&D in the 1990s, reflecting the Clinton Administration policy. In non-defense R&D, space R&D was important in the 1960s as the nation sought to compete with the Soviet Union in the space race; energy R&D joined space as a priority during the 1970s; and since the 1980s, health R&D funding has grown as the cohort of aged population increases and the promise of life sciences and biotechnology affects national expectations. Defense and counterterrorism R&D funding have been increased since the 9/11 terrorist attacks. Together, DOD and NIH funding total about 76% of the FY2006 R&D request. (See also CRS Report RL30905, *Federal Research and Development: Budgeting and Priority-Setting, 1993-2000*, by Genevieve J. Knezo.)

R&D Budgets

R&D budgets are developed over an 18-month period before a fiscal year begins. Often advisory committees, influenced by professional scientific groups, recommend R&D priorities to agencies, which use this information, internally generated information, and the White House's Office of Management and Budget (OMB) and Office of Science and Technology Policy (OSTP) guidance to determine priorities. Agencies and OMB negotiate funding request levels during the preparation of the budget before it is sent to Congress. After standing committees recommend budget levels for matters within their jurisdiction to the budget committees, Congress is to pass a budget resolution, which sets spending levels and recommends levels for each budget function that appropriations committees use in setting discretionary (302b) spending allocations for each appropriations subcommittee. The resolution also gives outyear projections based on budget and economic assumptions. Each of the appropriations subcommittees is to report approved funding levels for agencies within their jurisdiction; appropriations bills, which give agencies spending authority, are to be sent to the floor, usually beginning in the summer.

FY2004 Budget. The President's FY2004 R&D request totaled about $122.3 billion of budget authority, about 4% more than the FY2003 appropriated level. Similar to FY2003, counter-terrorism spurred budget request increases in DOD R&D, at 7% more than FY2003, and in DHS, at almost 50% more than FY2003. NIH's requested increase was 3% over FY2003; NSF's budget request at 3% over FY2003 fell short of the 15% envisioned in 2002 legislation authorizing NSF's budget to double over five years. In the Department of Commerce (DOC), the President sought to eliminate the Advanced Technology Program (ATP) and the (non-R&D) Manufacturing Extension Partnership (MEP). Appropriations action increased R&D funding to $127.0 billion, or 8% over FY2003, with 93% of the increase going to DOD, DHS, and NIH. NSF's R&D budget increased by 5% and DOE's by 6%. Other agencies had modest increases or cuts.

FY2005 Budget. Except for DHS and DOD, which were funded via separate appropriations bills, FY2005 R&D funding was appropriated in P.L. 108-447, an omnibus bill. The President's FY2005 R&D request was about $131.7 billion of budget authority, almost 5% more than the FY2004 appropriated level. Pressures on the discretionary budget increased; final R&D appropriations totaled about $131.8 billion of budget authority, about 54% going to defense R&D. Non-defense R&D funding increased about 0.2%. The largest increases went to R&D in NIH and DOD; smaller increases were made for R&D budget authority in USDA, DHS, and DOT, NASA and NIH. Legislation was enacted in 2002 to double NSF's budget over five years (as had been done previously for NIH), but NSF's budget request at about 4% over FY2004 fell short of the amount envisioned in the authorizing legislation and for FY2005 congressional action reduced NSF's budget by 0.3% below the FY2004 level. Congress appropriated less than the FY2004 level for R&D in the Department of Education and EPA. In DOC, the President sought again to eliminate the ATP, whose R&D component was funded at $134.0 million in FY2004. Congress increased R&D funding for NOAA by 10%, and funded ATP R&D at $114.0 million, about 15% less than in FY2004.

FY2006 Budget Request. The President's FY2006 budget proposes flat funding for non-defense discretionary programs. **See the Appendix table.** Federal R&D funding, requested at $132.3 billion of budget authority, about 0.1% more than the FY2005 enacted amount, would keep defense R&D funding flat and would increase non-defense R&D funding by about 0.3%, which basically cuts these programs in terms of real dollars, if inflation is considered. About 57% of the request is for defense R&D and about 22% is for biomedical R&D at NIH. The largest increases would go to the Department of Transportation (DOT), NASA, DHS, and NSF. After seven years of real dollar annual growth, the Defense Department's (DOD) R&D budget was proposed to be increased by 0.1%, but reduced in terms of constant dollars. Federal funding for total research (basic and applied) would be reduced by almost 2%, with basic research funding reduced by about 1%. NSF's requested R&D budget increase of almost 3% would go largely to facilities; and the average size of NSF's research grants is projected to decrease again this year. NIH projects a decline in the number of research project grants. FY2006 requested R&D funding was decreased for three major interagency R&D activities: networking and information technology; national nanotechnology initiative, and climate change science program.

Three appropriations bills with R&D funding have been passed: for the Departments of Homeland Security and the Interior, and for the EPA. The House-passed appropriations bills for FY2006 put R&D funding at $2.8 billion more than requested, with the increase largely for defense R&D. Total non-defense R&D funding was essentially flat in the House, although the House increased non-defense R&D funding in five agencies: USDA, DOE, NASA, the EPA, and the Department of the Interior. Senate action increased R&D more than the House, with more funding for R&D in NIH, USDA, DOT, DOE, and the Commerce Department, and less than the House for R&D in DOD, NASA, and NSF. The House and Senate have major differences on specific R&D programs. A continuing resolution funds FY2006 programs whose funding was not yet appropriated. Conference committee action continues.

Priority-Setting Issues

Current priority-setting debates focus on the functions and size of federal R&D funding as a part of national R&D and on how to balance priorities in the portfolio of federal non-defense R&D, especially between health and nonhealth R&D.

Trends in R&D Support Patterns. National (public/private) R&D expenditures have been rising over time to $283.8 billion in 2003 (expressed in absolute (or nominal) dollars), the latest year for which data are available.[1] Federal R&D expenditures as a part of the total have also risen, to $85.2 billion, but have declined significantly from 46% in 1983 to about 30% in 2003. Funding patterns figure prominently in priority-setting debates.

Industry is the largest supporter and performer of the nation's R&D; universities and colleges are the second-largest performer. Industry funded 63% of all U.S. R&D performed in 2003 and conducted 68%; industry funded about 98% of the R&D it conducted. The amount of R&D supported by various industries varies; most industrial R&D is for near-term applied work and product or prototype development. In 2003, industrial R&D expenditures supported 81% of the nation's development work; industry conducted 89% of the nation's development (the federal government supported 9% of the development industry conducted). Industry allocated 5% of its R&D expenditures to the nation's basic research and supported 17% of the basic research total. Federal support for development, which totaled about 35% of federal R&D, goes largely for defense R&D performed by industry. The federal government is the largest supporter of the nation's basic and applied research (i.e., research *per se*), and supplied 46% of total research expenditures in 2003. Industry provided 40% of national research expenditures (exclusive of development), largely for applied research. The federal government was the single largest supporter of the nation's basic research, funding 61% of national basic research expenditures, largely in universities, and, thus, is the largest contributor to sustaining the nation's scientific knowledge base. Universities and colleges conducted 55% of nationally funded basic research; the federal government funded about 67% of this university-performed basic research. About 43% of total federal research dollars

[1] Data in this section are based on U.S. National Science Foundation, *National Patterns of Research and Development Resources: 2003*, pp. 9-10, (NSF 05-308) and on Brandon Shackelford, "U.S. R&D Projected to Have Grown Marginally in 2003," NSF InfoBrief, Feb. 2004, NSF 04-307 and NSF, Table 1B, *National Patterns of R&D Resources: 2002 Data Update* (current to October 2002). Note: expenditure data, rather than budget authority data, need to be used to compare federal and nonfederal funding levels. Shackelford acknowledges that the expenditure data he uses "differ from Federal R&D funding totals reported by the Federal agencies that provide those funds. The difference in the Federal R&D totals appears to be concentrated in the funding of industry R&D by the Department of Defense." Expenditures do not equal outlays or budget authority. *See also* Elisa Eiseman, et. al., *Federal Investment in R&D,* RAND, Sept. 2002, MR-1639.0-OSTP. See also Steven Parson and John Jankowski, "Sixth Year of Unprecedented R&D Growth Expected in 2000," *NSF Data Brief,* Nov. 29, 2000, p. 1. NSF 01-310.

goes to universities and 23% to mission-oriented work in federal agency laboratories, largely at DOD, NIH, and USDA.

OMB's historical trend data indicate that in constant dollar terms, federal R&D funding has declined from about 14% of total federal discretionary outlays in FY1965 to about 13% today. In part because of economic pressures and budgetary caps, during the years FY1991 to FY2002, federal R&D funding was below the previous constant-dollar high of FY1990. As a result of congressional action, constant-dollar R&D appropriations started to eclipse the FY1993 level beginning with FY2001. However, concerns that had been raised about the declines in federal R&D funding have not abated because of a return to deficit spending, which can foreshadow reductions in discretionary R&D spending. Another issue is that as constrained federal R&D budgets focus more on defense, homeland security, and biomedical R&D, fewer resources may be available for other areas of R&D.

In recent commentaries and reports recommendations have been made to improve the types and quality of econometric and research and development data used in making science policies, with a focus on improving the information developed by NSF.[2]

Observations on the Role of the Federal Government in Supporting R&D. As shown in funding data, federal government support for R&D serves primarily the objectives of defense and homeland security, biomedical research, basic research knowledge generation, and enhancement of academic research capacity (which some call the "seed corn" of future scientific and technological development). Only a small percentage of federal non-defense R&D supports industrial R&D and innovation directly. Some observers contend that federal research support should be funded at increasingly higher levels as a public good and that other actions should be taken to enhance the U.S. ability to advance scientifically; to maintain the stature of U.S. academic institutions, science and engineering personnel, and research capacity in an increasingly competitive global academic environment; and to broaden the knowledge base that industry might use. For instance, these and other proposals are made in *Rising Above the Gathering Storm: Energizing and Employing America for a Brighter Economic Future,* a report released in 2005 by a National Academies committee in response to congressional requests by members of the Senate Committee on Energy and Natural Resources and the House Committee on Science.

Although there is controversy about it, some observers theorize that innovation and technological development are as important or more important than labor and capital as macro-economic drivers of economic growth. (See Congressional Budget Office, *R&D and Productivity Growth,* June 2005, 41 p.) Some contend that industrial R&D and innovation may benefit indirectly from federal investments in basic research and academic science and that this funding should be increased. (See NSF, *Science Indicators*, 2004, p. 0-4.) For example, President Bush's FY2002 budget supported this view: "More than half of the Nation's economic productivity growth in the last 50 years is attributable to technological innovation and the science that supported it" (p. 29). The President's FY2006 budget reported, "Basic research is the source of tomorrow's discoveries and new capabilities and this long-term research will fuel further gains in economic productivity, quality of life, and homeland and national security" (*Analytical Perspectives*, p. 61).

[2] Lawrence D. Brown, et. al., *Measuring Research and Development Expenditures in the U.S. Economy,* National Academy of Sciences Press, 2004; John H. Marburger, "Wanted: Better Benchmarks,"*Science,* May 20, 2005, p. 1087.

Others say that data are inadequate to support the notion that basic research knowledge leads directly to technological innovation as a crucial determinant of economic growth. Because of the lack of credible data and disagreement among experts, policymakers lack guidance to determine how much increased federal research support would enhance growth and which R&D fields or programs warrant funding in order to promote technological innovation.[3] As a result, some say that federal policy for industrial innovation, and its likely byproduct, economic growth, should focus more on improving the climate for industrial R&D, such as by tax incentives, altered regulatory policies, and wider liability protections.

The benefits of federal R&D investments are likely to be discussed in the context of long-term economic projections of deficits, decreasing outyear federal R&D budgets, and reductions in domestic discretionary spending. Related issues are whether policies to increase federal, state, and industrial support for academic research might overwhelm academic research with pressure to conduct short-term applied studies.[4] There is also the issue of whether state-supported funding could supplant federal funding in some areas, as evidenced by initiatives in California and other states to fund stem cell research and biotechnology R&D.[5] Other issues of debate focus on diversifying priorities for fields of support since the R&D budget request stresses funding for defense, homeland security, and health R&D spending and provides level or decreasing funding in most other areas of science and R&D application. There are also issues of organization of the government to fund and generate research knowledge, modifying funding mechanisms, and enhancing accountability for federal R&D investments. For instance, a 2005 report of the Center for Strategic and International Studies, entitled *Waiting for Sputnik: Basic Research and Strategic Competition*, discussed such options to increase federal basic research funding as redirect funds from development and testing of defense technologies; have Congress dedicate a percentage of R&D funding for basic research in physical sciences; make basic research funding an entitlement, not discretionary; increase tax credits for increased industrial support of academic basic research; establish independent consortia for basic research supported by both government and private resources; create a special class of Treasury bonds dedicated to basic research; or create a loan-guarantee program for third party bonds (issued by states, for example) to finance basic research (pp. 29-31.)

Priorities Among Fields of Federally Funded Research

Important questions are what should be the balance among fields of federally supported research, and specifically, since health/life sciences research has in recent years consistently received priority in the non-defense area, should more non-defense R&D funding go to support other fields of science? Some critics are concerned that the emphasis on health R&D may presage a scarcity of knowledge in physical sciences, math, and engineering.[6] They

---

[3] William B. Bonvillian, "Meeting the New Challenge to U.S. Economic Competitiveness," *Issues in Science and Technology*, Oct. 1, 2004.

[4] NSTC, *Implementation of the NSTC Presidential Review Directive-4: Renewing the Federal Government-University Research Partnership....*, Jan. 2001.

[5] The NAS held "Planning Meeting on the Role of State Funding of Research," July 13, 2001. See RAND/OSTP, *Discovery and Innovation: Federal R&D Activities in the Fifty States*, June 2000.

[6] In 2003, the National Science Board released a related report, *The Science and Engineering*

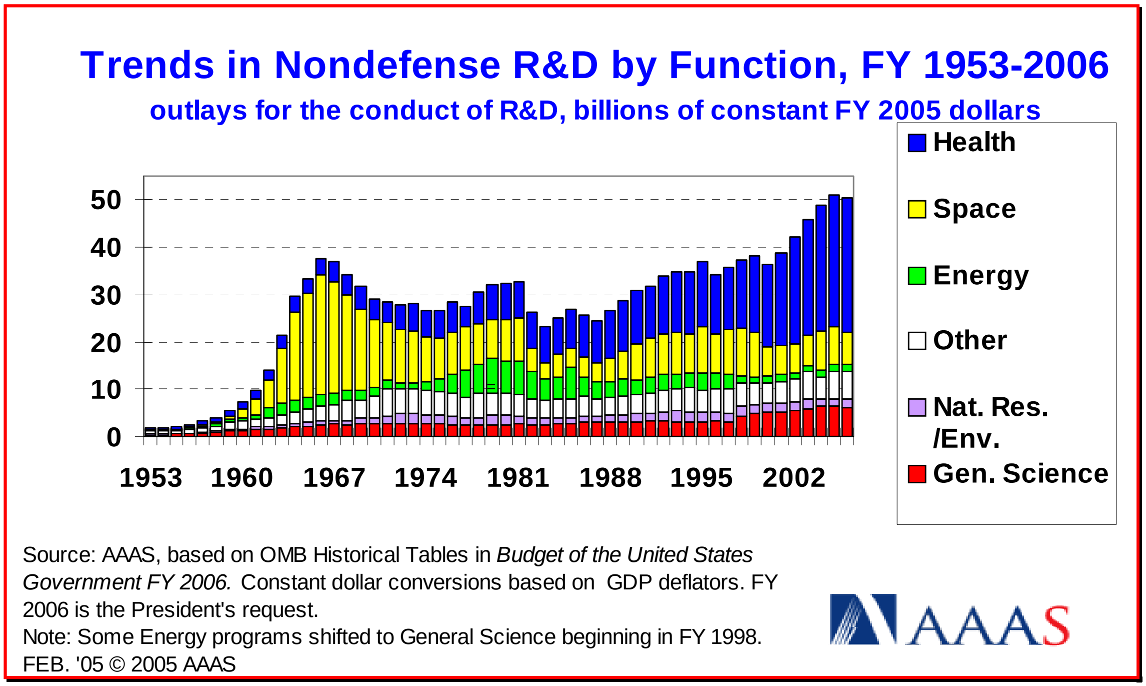
(continued...)

maintain that funding should be increased for all R&D fields, and others cite the need to reallocate more federal funding from health R&D to nonhealth R&D. As shown in **Figure 1**, health sciences R&D has grown as a priority for about the last 20 years. Over the period FY1995 to FY2006, requested R&D funding at NIH increased 112% in constant dollars compared to DOD, 64%; NSF, 42%; USDA, 13%; DOE, 1%; and NASA, -0.2%. R&D funding decreased in constant dollars for EPA and the Departments of the Interior, Transportation and Commerce. For FY2006, it is estimated that federally funded health-related R&D, primarily at NIH, would receive over 51% of the non-defense R&D budget. In terms of funding by field, federal obligations for life sciences increased from $9.9 billion in FY1992 to an estimated $22.2 billion in FY2002, or about 125%, while at the same time, between those years funding for physical sciences increased 16%; mathematics and computer sciences, 125%; and engineering, 41%. (Based on NSF data and AAAS data.)

Congressional Views About the Balance in Federal R&D Funding. There are various perspectives on the issue of balance, focusing on both types and fields of R&D supported. As already noted, funding for biomedical research has been a priority in recent years. In 1998, an amendment to S.Con.Res. 86, the FY1999 Senate budget resolution, expressed the sense of the Senate that the NIH budget should double within the next five years, which occurred by FY2004. (The doubling is not complete in constant dollar terms.) Critics allege that other fields of science have received inadequate federal attention as a result of the health science emphasis. Partially in reaction, P.L. 107-368, the NSF authorization bill for FY2003, authorized increases for NSF (which supports all areas of research) that would double its budget by 2008. NSF funding has not been appropriated at a rate to meet this target since and its FY2006 R&D funding request is less than 1% greater than in FY2003.

[6] (...continued)
Workforce/Realizing American's Potential, NSB-03-69.

Figure 1. AAAS Data on Trends in Non-defense R&D by Function, FY1953 - 2006



(AAAS granted CRS permission to use Figure 1.)

House Science Committee Chairman Boehlert in a statement on February 16, 2005 recognized the need for austerity in the FY2006 R&D budget, but questioned the wisdom of reduced funding for NSF's science education activities and DOE's science activities. A bipartisan "Views and Estimates" analysis released by the House Science Committee on March 7, 2005, noted,

> ...The proposed funding for basic research is insufficient. Funding short-term development at the expense of longer-term basic and applied research is not advisable, and neglects those portions of R&D where government support is most crucial. The ... budget must fully consider appropriate balances between defense and non-defense R&D spending and between biomedical and non-biomedical spending. ... The R&D budgets of DOD and ... NIH account for more than 75 percent of the total R&D budget. Further, the increase for defense development ... amounts to almost twice the overall increase in R&D. While fully acknowledging the important constrictions of defense and biomedical R&D, the Committee urges that similar attention be given to other important R&D agencies, such as NSF, DOE, and NIST" (p. 2).

Professional Groups' Views About Balance. While some professional groups argue for increased federal health sciences funding,[7] others contend that more balance or support for other fields is needed. For instance, 32 Nobel laureates and industrialists wrote to President Bush in April 2003, urging more balance and increased funding for physical sciences, mathematics, and engineering in the 2005 budget. In response to language in appropriations reports, in November 2004, the NIH and NSF held a conference on "Research

---

[7] For instance, see Federation of American Societies for Experimental Biology, *Federal Funding for Biomedical and Related Life Sciences Research, FY2006,* 27 p.

at the Interface of the Life and Physical Sciences: Bridging the Sciences," to identify opportunities, challenges, and issues at the interface of the life and physical sciences that could result in major advances and to develop approaches for bridging the separate fields. Nongovernmental scientists attending the meeting recommended more funding for this interdisciplinary work and are preparing a follow-up report for the government.[8] The President's Council of Advisors on Science and Technology (PCAST) released *Assessing the U.S. R&D Investment*, January 2003. The draft of this report, which was issued in August 2002, called for doubling federal budgets for physical sciences and electrical, mechanical, chemical, and metallurgical and materials engineering, and endorsed doubling the NSF budget. Reportedly, the OSTP director objected to singling out any agency or field for doubling,[9] so the report recommended targeting physical sciences and engineering to bring "them collectively to parity with the life sciences over the next 4 budget cycles" in order to better balance budget allocations. The U.S. Commission on National Security 21st Century, in *Road Map for National Security: Imperative for Change*, *The Phase III Report*, 2001 concluded that threats to the nation's scientific and educational base endanger U.S. national security. It recommended doubling the federal R&D budget by 2010 and improving the competitiveness of less capable U.S. academic R&D institutions. The Alliance for Science and Technology Research in America supports increased R&D funding for all fields.[10]

Arguments have also been made to give more attention to industrial R&D. The Council on Competitiveness, in a December 2004 report, *Innovate America,* included proposals to increase to an average of 3% the amount of federal agency budgets for basic research, to improve the regulatory climate for corporations, to increase federal investment in selected areas of applied research, and to improve science and engineering education. A National Academy of Engineering report, *Trends in Federal Support of Research and Graduate Education,* 2001, recommended that the Administration and Congress should evaluate federal research funding by field, assess implications for knowledge generation and industrial growth, and increase budgets for underfunded disciplines. Similar recommendations were made in *New Foundations for Growth: The U.S. Innovation System Today and Tomorrow,* released by the National Science and Technology Council on January 10, 2001.

Legislative Proposals to Broaden Incentives for Private R&D. Legislation has been introduced again in the 109th Congress to make permanent the Research and Experimentation (R&E) tax credit that provides credits for industrially funded R&D support in industry and universities that was due to expire on June 30, 2004.[11] The Administration sought to have it made permanent and estimated it would cost about $30.0 billion over the period 2005-2009. P.L. 108-311, enacted in 2004 extended the research tax credit through December 31, 2005. In the 109th Congress, S. 14, the "Fair Wage, Competition and Investment Act," introduced January 24, 2005, and S. 387, the "Climate Change Technology Tax Incentives Act," would make the credit permanent. S. 3, "Protecting America in the War on Terror Act of 2005," would allow tax credits for vaccine and countermeasures research

---

8 Jeffrey Mervis, "What Can NIH Do for Physicists?" *Science,* Nov. 26, 2004, p. 1463.

9 "PCAST Releases Report on U.S. R&D Investment," *CFR Weekly Wrapup,* Feb. 14, 2003.

10 See [http://www.aboutastra.org/_images/pdfs/astrabriefs205.pdf] and David Malakoff, "Perfecting the Art of the Science Deal," *Science,* May 4, 2001, pp. 830-835.

11 See CRS Report RL31181, *Research Tax Credit: Current Status, Legislative Proposals, and Policy Issues,* by G. Guenther.

and manufacturing. Proposals to provide incentives for pharmaceutical research focusing on liability protection and/or tax incentives include H.R. 417 and S. 95. Other proposals include H.R. 1454, H.R. 1736, and S. 627.

NSF Funding. NSF funds research across all disciplines and is the main federal source for most non-health related academic research. P.L. 107-368, the NSF authorization bill for FY2003, authorized increases in NSF's budget by 15% for each of FY2003, FY2004, and FY2005, which according to the sponsors, would "put the NSF on the track to double its budget within five years" (FY2008), similar to the NIH doubling track. Another objective was to increase federal support for science fields which in recent years have not experienced the larger percentage increases which have gone to biomedical R&D. The law also required increased oversight of NSF facilities programs; a report was prepared by the National Science Board (NSB).[12] Congress appropriated about $4.1 billion in budget authority for NSF's FY2004 R&D funding, almost 5% more than FY2003, and about $1.0 billion less than envisioned in the authorization act. For FY2005, congressional action reduced NSF's budget authority below the FY2004 level. The FY2006 requested R&D budget increase of almost 3% would go largely to facilities. P.L. 107-368 also required the NSB, which governs NSF together with the Director, to report on how NSF's increased funding should be used. In a 2003 report, *Fulfilling the Promise: A Report to Congress on the Budgetary and Programmatic Expansion of the National Science Foundation* (NSB-2004-15), the Board recommended meeting unmet needs by funding NSF annually at $18.7 billion, including about $12.5 billion for R&D, and outlined priorities for support. Prominent among groups which have recommended increased funding for NSF is the Coalition for National Science Funding (CNSF), which represents many universities and professional science associations, and recommended for FY2006, a 15% increase for NSF over the FY2004 level in order to fund all the "very good to excellent"and "excellent" proposals that NSF receives.[13] Senator Kay Bailey Hutchison, chairman of the Senate Commerce Subcommittee on Science and Space, in September 2005, recommended that NSF "focus firmly" on "the hard sciences," – biology, chemistry, and physics, and not direct additional resources to support social sciences research ("Ensuring a Health Future America," Sept. 30, 2005, [http://hutchison.senate.gov/cchealthfuture.htm]).

Homeland Security R&D Funding. Homeland security R&D funding is becoming an increasingly larger component of the federal non-defense R&D budget and is a significant issue in priority-setting for R&D. It grew from 3.7% of the non-defense R&D budget in FY2003 to 6.5% of the FY2006 requested non-defense R&D budget. OMB's term "combating terrorism" R&D includes homeland security R&D and overseas combating terrorism R&D.[14] An appendix to OMB's FY2006 *Analytical Perspectives* budget request volume includes data on homeland security funding, but these data do not clearly identify R&D funding. Unpublished OMB data on all agencies' homeland security R&D funding show a 15% increase from the estimate of the enacted FY2005 level to $4.0 billion of budget

---

[12] The draft NSB report is at [http://www.nsf.gov/nsb/documents/2005/large_facilities_draft.pdf].

[13] See [http://cnsfweb.org/FY2006.StatementFinal.Color.pdf].

[14] For additional information on homeland security R&D data availability and quality, see CRS Report RL32481, *Homeland Security Research and Development Funding and Activities in Federal Agencies: A Preliminary Inventory*, by Genevieve J. Knezo, and CRS Report RL32482, *Federal Homeland Security Research and Development Funding: Issues of Data Quality*, by Genevieve J. Knezo.

authority requested for FY2006. **See Table 1.** The largest FY2006 programs are in NIH largely for bioterrorism R&D and for containment facilities. This is followed in size by the requests for DHS, DOD, NSF, and the Department of Justice. Other programs are in USDA, DOC's National Institute of Standards and Technology (NIST), DOE, EPA, Treasury, and DOT. P.L. 107-296, the Homeland Security Act of 2002, mandated DHS to coordinate these programs. The law also consolidated some federal homeland security R&D programs in DHS. The OMB data in Table 1 show that DHS's FY2006 R&D budget request is about $1.2 billion, almost 4% more than the enacted FY2005 level. DHS's R&D funding has about quintupled since FY2002 and is the largest percentage increase for any non-defense federal agency R&D mission since FY2002. About 35% of DHS's FY2006 R&D budget would be for basic and applied research, up 30% from FY2004. For additional details, see CRS Report RS21270, *Homeland Security Research and Development Funding, Organization, and Oversight*, by Genevieve J. Knezo; on homeland security R&D funding data quality issues, see CRS Report RL32481, *Homeland Security Research and Development Funding and Activities in Federal Agencies: A Preliminary Inventory*, by Genevieve J. Knezo; and CRS Report RL32482, *Federal Homeland Security Research and Development Funding: Issues of Data Quality*, by Genevieve J. Knezo. Appropriations action so far reduced DHS R&D funding below the requested level; see the **appendix table**.

Table 1. Non-published OMB Data on Homeland Security (HS)R&D Funding by Agency, Budget Authority, Supplemented by AAAS Data

(dollars in millions)

Agency	2003 Enacted	2004 Estimate	2005 Estimate	2006 Request	AAAS Estimate, Includes Facilities
USDA	$12	$22	$31	$67	$172
DOC	16	17	59	62	82
DOD	212	267	362	394	394
DOE	19	19	32	52	81
DHHS	834	1,643	1,608	1,766	1,802
DHS	619	816	1,017	1,227	1,287
DOJ	161 + 25 supplemental	49	61	109	—
DOT	4	—	0	1	0
Treasury	—	3	3	3	—
EPA	53	30	25	40	94
NSF	269	318	324	328	329
All other	—	—	—	—	92
Total R&D	**2,223**	**3,185**	**3,522**	**4,048**	**$4,425**
Total Non-defense HS R&D	$2,011	$2, 918	$3,160	$3,654	—

Note: Totals may not add due to rounding. All columns except the last are based on data provided by OMB. FY2003 data provided Jan. 2004; other years' data provided Feb. 2005. In 2004, OMB characterized these data as "discretionary budgetary resources," which, according to OMB staff, is "budget authority." Data exclude facilities, construction, and overseas combating terrorism R&D funding. AAAS data in the last column include facilities. The symbol — means not available. AAAS data are at [http://www.aaas.org/spp/rd/hs06.htm].

Federal R&D Priority-Setting Structures

Some observers recommend more centralized R&D priority-setting in Congress and in the executive branch. Others say that congressional jurisdiction for R&D is split among a number of committees and subcommittees, preventing examination of the R&D budget as a whole. This means that R&D funding can serve particular local or program interests, but may not be appropriate for a national R&D agenda. But opponents see value in a decentralized system in which budgets are developed, authorized, and appropriated separately by those most familiar with the needs of specific fields of R&D — the department or agency head and the authorizing and appropriations subcommittees with jurisdiction. Other issues center on interagency initiatives, R&D policy coordination, developing a technology assessment capacity, earmarking, and R&D funding accountability.

Unified Federal Science and Technology (FS&T) Budget. In a 1995 report, *Allocating Federal Funds for Science and Technology*, the National Academies (NAS) recommended that Congress consider, the R&D budget as a unified whole before its separate parts for each agency are considered by individual congressional committees. It recommended that R&D budget request data be reconfigured as an S&T budget, excluding defense development, testing and evaluation activities, to denote basic and applied R&D and the creation of new knowledge. Since the FY2002 budget request, OMB has used a modified version of this format and has identified a "Federal Science and Technology (FS&T) budget table," which, for FY2006, includes less than half of total federal R&D spending and some non-R&D funding, such as education and dissemination of information.[15] OMB' s table projects a decrease in FS&T funding of about 1% from FY2005 to FY2006 as requested. Continued use of this alternative format may pave the way for congressional consideration of a realigned and unified S&T budget. S.Amdt. 2235 to the Senate budget resolution (S.Con.Res. 86) for FY1999 expressed the sense of the Senate that for FY2000-2004, all federal civilian S&T spending should be classified under budget function 250. In 2004, Senator Jeff Bingaman said: "It would be valuable to have joint hearings across the relevant committees in the Senate on the overall shape of our S&T spending. It might be worth considering whether the functional nature of the budget itself should be revised to put the entire federal S&T budget in one place, so that there is much more transparency as to what the real trends are...."[16]

Interagency R&D Initiatives. Executive Order 12881, issued by President Clinton, established the National Science and Technology Council (NSTC) with cabinet-level status. Located in the Executive Office of the President, it recommends agency R&D budgets to help accomplish national objectives, advises OMB on agency R&D budgets, and coordinates presidential interagency R&D initiatives. Beginning with the FY1996 budget request, NSTC identified interagency R&D budget priorities. The FY2006 budget identified agency funding for two interagency R&D initiatives whose reporting is required by statute, "Networking and Information Technology R&D," requested at $2.1 billion, a 7% decrease from the estimated FY2005 amount, and "Climate Change Science Program," which incorporated the U.S. Global Change Research Program, totaling $1.9 billion, a 1% decrease from the estimated FY2005 amount. Another priority interagency initiative is for nanotechnology, requested at $1.1 billion, a 2% decrease from the FY2005 amount. Other FY2006 interagency R&D initiatives include combating terrorism R&D and hydrogen R&D.

Proposals to Coordinate Federal R&D. The 2001 National Science Board (NSB) report, *Federal Research Resources: A Process for Setting Priorities,* (NSB 01-160) recommended a *"continuing advisory mechanism"* in Congress and the executive branch and

---

[15] Sec. 5, *FY2006 Budget, Analytical Perspectives.*

[16] "Bingaman: A Revitalized Science and Technology Policy Badly Needed," Feb. 11, 2004, Office of Sen. Bingaman.

strengthening the OMB/OSTP relationship to coordinate R&D priorities. It said that federal R&D funding should be viewed as a five-year planned portfolio, rather than as the sum of the requirements and programs of departments. AAAS President Mary Good, recommended creating a *cabinet-level post for S&T* to help achieve balance in R&D and coordinate federal R&D and handle research policy issues.[17] The aforementioned Commission on National Security recommended empowering the President's science advisor to establish *"functional budgeting,"* to identify non-defense R&D objectives that meet national needs, strengthen the OSTP, NSTC and PCAST, and improve coordination with OMB to enhance stewardship of national R&D. The congressional science policy report, *Unlocking Our Future*, 1998, spearheaded by Representative Vernon Ehlers, called for balance in the federal research portfolio and said that while OMB can fulfill the coordination function in the executive branch, "no such mechanism exists in the Congress. ...[I]n large, complex technical programs, ... committees should ... consider holding joint hearings and perhaps even writing joint authorization bills" (p. 7).

Legislation on Technology Assessment. The aforementioned NSB report also recommended that Congress develop "an appropriate mechanism to provide it with independent expert S&T review, evaluation, and advice" (p. 16). Some believe that this could pertain to reestablishing the Office of Technology Assessment (OTA), which was active between 1972 and 1995 as a congressional support agency. It prepared in-depth reports and discussed policy options about the consequences of applying technology. Sometimes congressional committees used these reports to set R&D priorities in authorizations and appropriations processes. OTA was eliminated as part of the reductions Congress made in a FY1996 appropriations bill. Several meetings have been held to assess ways to "resurrect" OTA or variants of it. Advocates cite the need for better congressional support for S&T analysis.[18] The OTA is still authorized, but funds would have to be appropriated for it. The pros and cons of reviving OTA or re-creating a similar body have been examined since its termination. During the 107th Congress, H.R. 2148, a bipartisan bill, would have authorized OTA funding at $20.0 million annually for five years. Since 2002, at congressional direction, the Government Accountability Office (GAO) has conducted three pilot technology assessments, *Technology Assessment: Using Biometrics for Border Security*, GAO-03-174, 2002, *Cybersecurity for Critical Infrastructure Protection*, GAO-04-321, and *Protecting Structures and Improving Communications During Wildland Fires,* GAO-05-380, and has one underway, on port security. Legislative action in the 108th Congress included proposals to restore OTA's funding (H.R. 125); to create a Science and Technology Assessment Service to conduct assessments for Congress (H.R. 6 as passed in the Senate); to conduct technology assessments in GAO (report language on H.R. 2657 and on H.R. 4755); and to create a technology assessment capability in GAO (S. 2556) or under its direction (H.R. 4670, which would create a Center for Scientific and Technical Assessment).

---

[17] Rebecca Spieler, "AAAS President Concerned About Imbalances in Nation's R&D Portfolio...," *Washington Fax*, Feb. 21, 2001.

[18] Wil Lepkowski, "The Mummy Blinks," *Science and Policy Perspectives,* June 25, 2001; D. Malakoff, "Memo to Congress: Get Better Advice," *Science,* June 22, 2001: 2229-2230; and M. Davis, "A Reinvented Office of Technology Assessment May Not Suit Congressional Information Requirement...," *Washington Fax,* June 18, 2001; M. Granger Morgan and John M. Peha, *Science and Technology Advice for Congress,* Washington, Resources for the Future, 2003, pp. 208-227.

In FY2005 Legislative Branch Appropriations action, Representative Holt offered H.Amdt. 667 to H.R. 4755, to add $30 million to GAO's account for a Center for S&T Assessment; the House rejected the amendment on July 12, 2004. The House Legislative Branch Appropriations report (H.Rept. 108-577) encouraged GAO to retain its core capability to conduct technology assessments. S.Rept. 108-307, to accompany S. 2666, indicated that while the Senate Appropriations Committee supported GAO doing technology assessments, it did not intend to appropriate specific funding for this purpose and that GAO should conduct assessments that are supported by both House and Senate leadership and that address issues of national scope. The report instructed GAO to consult with the committee regarding definitions and procedures to conduct technology assessment. Issues under debate have included the need for assessments, funding, utility of GAO's reports, and options for institutional arrangements. See also CRS Report RS21586, *Technology Assessment in Congress: History and Legislative Options*, by Genevieve J. Knezo.

Earmarking. There is controversy about congressional designation of R&D funding for specific projects, also called earmarking. When using this practice, Congress, in report language or law, directs that appropriated funds go to a specific performer or designates awards for certain types of performers or geographic locations. Typically an agency has not included these awards in its budget request and often such awards may be made without prior competitive peer review. Critics say that earmarking undermines the authorization process and distorts agency R&D priorities. Supporters believe the practice helps to develop R&D capability in a wide variety of institutions, that it compensates for reduced federal programs for instrumentation and facilities renewal, and that it generates economic benefits in targeted regions since R&D capacity may generate industrial growth. OMB's earmarking data (called "research performed at congressional direction"), show that $2.4 billion was appropriated for FY2005, 4% of total federal research funding. AAAS, reported that for FY2005 R&D earmarks were mainly for projects in DOD, DOE, USDA, and NASA in that order.[19] The Administration seeks to discourage earmarking, saying that it distorts agency priorities and seldom is an effective use of taxpayer funds.

Government Performance and Results Act (GPRA) and Performance Assessment Rating Tool (PART). The Government Performance and Results Act of 1993 (GPRA), P.L. 103-62, is intended to produce greater efficiency, effectiveness, and accountability in federal spending and to ensure that an agency's programs and priorities meet its goals. It also requires agencies to use performance measures for management and, ultimately, for budgeting. Recent actions have required agencies to identify more precisely R&D goals and measures of outcomes. As underscored in *The President's Management Agenda*, beginning in FY2001 and in each year thereafter, the Bush Administration has emphasized the importance of performance measurement, including for R&D. In a memorandum dated June 5, 2003, signed jointly by the Directors of OSTP and OMB regarding planning for the FY2005 R&D budgets, the Administration announced that it would expand its effort to base budget decisions on program performance (OMB M-03-15). OMB referred to this memo again in the FY2006 R&D budget guidance, which reiterated the importance of performance assessment for R&D programs (OMB M-04-23). According to section 5 of *Analytical Perspectives, FY2006,* agencies were required to use OMB criteria to measure research outcomes, focusing on relevance, quality, and performance. R&D performed by industry is to meet additional criteria relating to the appropriateness of public

---

[19] AAAS, "R&D Funding Update," Nov. 29, 2004 [http://www.aaas.org/spp/rd/upd1104.htm].

investment and to identification of decision points to transition the activity to the private sector. The Administration has assessed some R&D programs with the Program Assessment Rating Tool (PART), which uses the OMB R&D criteria and other measures. PART results for 84 R&D programs were used when making FY2006 budget decisions. OMB's *Analytical Perspectives* volume reported that 25 programs were effective, 31 were moderately effective and the other 28 programs ranked below these levels, with 19 ranked ineffective or results not demonstrated. Commentators have pointed out that it is particularly difficult to define priorities for most research and to measure the results quantitatively, since research outcomes cannot be defined well in advance and often take a long time to demonstrate, probably precluding use of performance measures to recommend budget levels for most R&D. Some observers say that many congressional staff are not yet comfortable with using performance measurement data to make budget decisions and prefer to use traditionally formatted budget information, which focuses on inputs, rather than outputs.[20] Congress may increase attention to the use of R&D performance measures in authorization and appropriations actions especially as constraints grow on discretionary spending. In June 2005, the OMB sent Congress draft legislation to authorize results commissions to evaluate programs and recommend restructuring or termination of those deemed ineffective [http://www.govexec.com/dailyfed/0605/063005a1.htm]. (See CRS Report RL32164, *Performance Management and Budgeting in the Federal Government: Brief History and Recent Developments*, by Virginia A. McMurtry.)

The NAS's most recent report advising on use of performance measures for research is *Implementing the Government Performance and Results Act for Research: A Status Report, 2001*. As for congressional interest, the House Science Committee's science policy report, *Unlocking Our Future*, 1998, commonly called the Ehlers report, recommended that a "portfolio" approach be used when applying GPRA to basic research. The House adopted a rule with the passage of H.Res. 5 (106th Congress) requiring all "committee reports [to] include a statement of general performance goals and objectives, including outcome-related goals and objectives for which the measure authorizes funding."

[20] Amelia Gruber, "Lawmakers Remain Skeptical of Linking Budget, Performance," *GovExec.com*, Jan. 13, 2004, and GAO, *Performance Budgeting: Observations on the Use of OMB's Program Assessment Rating Tool for the Fiscal Year 2004 Budget*, GAO-04-174, Jan. 2004.

Appendix Table. R&D in the Budget, by Agency, Based Largely on AAAS Data

(Budget authority in millions of dollars)

SELECTED AGENCIES & PROGRAMS	FY2000 actual	FY2001 actual	FY2002 actual	FY2003 actual	FY2004 actual	FY2005 estimate	FY2006 request	FY2006 House	FY2006 Senate	FY2006 Conference
Dept. of Agr. Total	$1,776	$2,181	$2,112	$2,334	$2,222	$2,403	$2,051	$2,225	$2,373	
(Agr. Res. Service)	—	*(1,012)*	*(1,234)*	*(1,294)*	*(1,165)*	*(1,306)*	*(1,079)*	*(1,141)*	*(1,289)*	
(CSREES)	—	*(594)*	*(532)*	*(608)*	*(616)*	*(650)*	*(520)*	*(624)*	*(625)*	
(Forest Service)	—	*(245)*	*(265)*	*(265)*	*(312)*	*(314)*	*(318)*	*(331)*	*(323)*	
Dept. of Commerce Total	1,174	1,030	1,328	1,200	1,137	1,148	983	911	1,273	
(NOAA)	*(643)*	*(561)*	*(611)*	*(666)*	*(640)*	*(650)*	*(534)*	*(501)*	*(693)*	
(NIST)	*(471)*	*(413)*	*(460)*	*(491)*	*(457)*	*(461)*	*(416)*	*(379)*	*(537)*	
(ATP) ((Within NIST))	*(116)*	*(118)*	*(150)*	*(153)*	*((134))*	*((114))*	*((0))*	*((0))*	*((114))*	
Dept. of Defense Total	39,959	42,740	49,877	59,296	65,948	71,566	71,009	73, 633	72,448	
(S&T (6.1-6.3+ medical))	*(8,632)*	*(9,365)*	(*10,337)*	*(11,186)*	*(12,377)*	*(13,630)*	*(10,691)*	*(13,484)*	*(12,695)*	
Dept. of Education	238	264	265	282	299	297	261	261	262	
Dept. of Energy Total	6,956	7,733	8,078	8,312	8,763	8,614	8,393	8,576	8,882	
(Atomic/Defense)/*(NNSA+Defense)*	*(3,201)*	*(3,462)*	*(3,855)*	*(4,049)*	*(4,198)*	*(4,138)*	*(4,031)*	*(3,986)*	*(4,131)*	
(Energy & Science)	*(3,755)*	*(4,271)*	*(4,224)*	*(4,263*	*(4,565)*	*(4,476)*	*(4,363)*	*(4,653)*	*(4,751)*	
Dept. of HHS Total	18,182	21,045	23,696	27,411	28,521	29,084	29,139	29,050	29,961	
(NIH)	*(17,234)*	*(19,807)*	*(22,714)*	*(26,398)*	*(27,248)*	*(27,784)*	*(27,925)*	*(27,922)*	*(28,804)*	
Dept. of Homeland Security*	—	—	266	737	1,028	1,243	1,287	1,259	1,266	1,276
Dept. of the Interior Total	618	621	641	643	627	615	581	620	616	620
(U.S. Geological Survey)	—	*(566)*	*(583)*	*(550)*	*(553)*	*(541)*	*(515)*	*(553)*	*(550)*	*(555)*
Dept. of Transportation Total	607	718	778	700	665	744	807	727	742	
(FAA)	*(220)*	*(301)*	*(359)*	*(271)*	*(248*	*(263*	*(233)*	*(246)*	*(285)*	
(FHA)	*(261)*	*(294)*	*(275)*	*(291)*	*(332)*	*(337)*	*(445)*	*(345)*	*(319)*	
(NHTSA)	*(51)*	*(58)*	*(59)*	*(61)*	*(7)*	*(61)*	*(62)*	*(62)*	*(60)*	

SELECTED AGENCIES & PROGRAMS	FY2000 actual	FY2001 actual	FY2002 actual	FY2003 actual	FY2004 actual	FY2005 estimate	FY2006 request	FY2006 House	FY2006 Senate	FY2006 Conference
Dept. of Veterans Affairs	645	719	756	819	866	744	786	786	805	
Environmental Protection Agency	558	574	592	567	662	572	568	579	552	579
NASA Total	9,494	9,887	10,224	10,681	10,803	10,750	11,497	11,542	11,464	
(Space Flight)	*(3,014)*	*(2,901)*	*(2,461)*	*(3,613)*	—	—	—	—	—	
(Science, Aeronautics, Tech.)	*(6,481)*	*(7,024)*	*(7,840)*	*(7,386)*	—	—	—	—	—	
*(Exploration Capabilities)***	—	—	—	—	*(1,829)*	*(1,676)*	*(2,232)*	*(1,816)*	*(1,703)*	
*(Science, Aeronautics, Exploration)***	—	—	—	—	*(8,974)*	*(9,019)*	*(9,264)*	*(9,726)*	*(9,761)*	
National Science Foundation	2,931	3,320	3,525	3,926	4,123	4,057	4,170	4,163	4,124	
All other R&D	630	702	912	391	724	727	713	677	742	
TOTAL	83,769	91,534	102,899	117,439	126,389	132,560	132,246	135,042	135,563	
Non-Defense	40,609	45,332	49,167	54,552	56,046	56,528	56,867	57,048	58,707	
Non-Defense Minus NIH	*23,374*	*25,525*	*26,453*	*28,243*	*28,798*	*28,744*	*28,942*	*29,127*	*29,824*	
Defense/Energy Defense	43,160	46,202	53,731	62,887	70,344	76,032	75,379	77,958	76,579	

Notes: Totals may not add due to rounding. Data include conduct of R&D and R&D facilities. Not all subagency R&D data is given, therefore the sums may not equal the agency total. Based largely on data in tables prepared by the American Association for the Advancement of Science (AAAS), including data from "Congress Provides Flat or Declining Funding for Most R&D Programs, Boosts Space and Defense R&D," AAAS, July 7, 2005 and related tables and agency updates.[http://www.aaas.org/spp/rd/].Data from previous years' tables appear at [http://www.aaas.org/spp/rd/]. AAAS bases its tables on OMB data, agency budget justifications, information from agency budget offices, and appropriations action. Data in italics in parentheses are parts of the total and have been included in agency totals. See also CRS Report RL32799, *Federal Research and Development Funding: FY2006*, by Michael E. Davey (coordinator). The final FY2005 figures include adjustments to reflect across-the-board reductions in the FY2005 omnibus bill.
*FY2002 data for comparison purposes only. DHS begin operations in FY2003. DHS figures include programs that were transferred from other agencies. DHS figures are based on revised AAAS estimates made Feb. 24, 2005 at [http://www.aaas.org/spp/rd/dhs06p.htm].
**Categories were changed after FY2003.