

Highlights

The focus of President Bush's fiscal year (FY) 2005 budget continues to be record-breaking projections of budget deficits, and the many budget proposals designed to bring them under control or at least appear to do so. In a repeat of past budgets, the FY 2005 budget proposes record funding for federal research and development (R&D) due to large increases in defense and homeland security R&D; but with tight constraints on other discretionary spending, most federal R&D programs would see flat funding or cuts, and even favored R&D agencies of past years would see increases barely above the expected rate of inflation.

- The request for **total federal R&D in FY 2005 is \$132.0 billion**, \$5.5 billion or 4.3 percent more than FY 2004 (see Table I-1). The entire increase would go to Department of Defense (DOD) development of weapons systems and R&D in the new Department of Homeland Security (DHS), leaving all other federal R&D programs collectively with declining funding. **Total research (basic and applied) would stay flat (up 0.2 percent)** at \$55.7 billion, even including DHS' expanding research efforts (see Table II-1).

- Outside of DOD development and DHS R&D, the federal R&D portfolio would mostly decline or stay even with this year's funding.

- Even two favored nondefense R&D agencies in recent years are adjusting to diminished expectations. **The National Institutes of Health (NIH) budget, after doubling in the five years between 1998 and 2003, would see an increase of 2.6 percent in FY 2005** (see Chapter 8 and Table II-9). Although President Bush signed an authorization bill in December 2002 that called for its budget to double over five years, **the National Science Foundation (NSF) budget would fall short of the mark with a budget of \$5.7 billion, up 3.0 percent** after similar increases in the past two years but well short of the \$7.4 billion authorized. Most NSF research directorates would see increases of about 2 percent in FY 2005 (see Chapter 7 and Table II-7).

- The **Department of Homeland Security (DHS) would continue its dramatic expansion of R&D capabilities with an R&D budget of \$1.2 billion, up \$163 million or 15.5 percent after an even larger increase last year** (see Chapter 13 and Table II-20).

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- **Most of the other agencies in the federal R&D portfolio would see steep cuts or at best modest increases in their R&D funding (see Table II-1).** The Department of Energy's (DOE) Office of Science would see its R&D funding decline by 0.4 percent, with small increases for core R&D programs offset by cuts in congressionally designated R&D projects. Similarly, proposed cuts in R&D earmarks balanced by flat or declining funding for core R&D programs result in cuts to R&D in the U.S. Geological Survey (USGS; down 4.0 percent), the National Oceanic and Atmospheric Administration (NOAA; down 1.1 percent), and the basic research programs of DOD (down 5.3 percent). The budget would eliminate Commerce's Advanced Technology Program (ATP).

- Cutting across traditional government mission areas, **federal homeland security R&D would total \$4.2 billion in FY 2005**, a substantial boost of 15.9 percent or \$575 million over this year's funding level across a dozen federal agencies (see Table I-17). In the aftermath of the fall 2001 terrorist attacks, the federal investment will have nearly tripled since 2002. The majority of the portfolio would remain outside DHS, with the largest part coming from NIH for its biodefense research portfolio. NIH's portfolio, mostly in the National Institute of Allergy and Infectious Diseases (NIAID), would total \$1.8 billion in FY 2005, up 4.6 percent.

- The AAAS analysis of the **outyear projections in the FY 2005 budget** shows that while nondefense R&D would increase from \$56.0 billion this year to \$60.5 billion by FY 2009, this would be a 0.5 percent cut after adjusting for expected inflation. Large planned increases in NASA and DHS would offset steep planned cuts in all other nondefense R&D agencies (see Table I-15 and Chapter 3).

- Nanotechnology R&D would be the top priority in the federal R&D portfolio in FY 2005 among multi-agency initiatives (see Table I-10). Funding for the **National Nanotechnology Initiative** would increase \$21 million (or 2.2 percent) to \$982 million, for a doubling of the federal investment in just four years (see Chapter 25). Funding for the **Networking and Information Technology R&D** initiative would stay level at \$2.0 billion for the fourth year in a row (see Chapter 24). The **Climate Change Science Program (CCSP)**, combining the longstanding U.S. Global Change Research Program (USGCRP) with the new Climate Change Research Initiative (CCRI), would fall 2.1 percent to \$2.0 billion (see Chapter 16).