

Outyear Projections for R&D to 2011

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The FY 2007 budget contains projections for federal spending and revenues to FY 2011, and provides the assumptions behind the Bush Administration's goal of reducing the budget deficit. Although these projections are mostly extrapolations of current policies, they are far from mechanical exercises. The projections show widely differing budget trajectories for programs, and show how overall budget goals translate into specific program budgets. More importantly, past projections have turned out to foretell current R&D funding environment remarkably well. **The AAAS analysis of the latest outyear projections reveals that the Bush budget would cut R&D funding for all major R&D programs over the next five years except for NASA's space exploration programs and the 3 American Competitiveness Initiative agencies.**

- Federal support for R&D is projected to increase from \$134.5 billion in 2006 to \$141.9 billion in FY 2011, a nominal increase but a 5.1 percent cut after adjusting for expected inflation (see Table I-10). **There is money set aside for the National Science Foundation (NSF), the Department of Energy's (DOE) Office of Science, and the National Institute of Standards and Technology (NIST) to win gains every year through 2011 to stay on course for a 10-year doubling path, and for NASA to build new space vehicles. But there are projected cuts for every other R&D funding agency** (see Figure 1).

- Although NASA R&D is projected to gain 41.5 percent in real terms to an R&D budget of \$17.8 billion by 2011, the gains would go solely to a dramatic ramp-up of the Constellation Systems program from \$1.7 billion this year to \$7.7 billion in 2011 (up 300 percent after inflation), and a 21 percent real boost for the Space Station. The largest gains would come in 2011 (see Figure 1), based on the assumption that the non-R&D Space Shuttle will be retired in 2010, thus freeing up money for other programs. But the NASA Science portfolio would fall 5.0 percent, and all other NASA R&D would plunge 24 percent.

- The three American Competitiveness Initiative agencies, in a sharp turnaround from previous projections and previous budgets, are projected to do well in future budgets (see Figure 1). **Despite a shrinking domestic pie, NSF, DOE Science, and NIST would claim steadily increasing slices over the next five years to fulfill the first half of a 10-year doubling plan.** The NSF budget is projected to climb from \$5.6 billion this year to \$7.9 billion in 2011, providing room for NSF's R&D investments to increase 28 percent in constant dollars by 2011. The total DOE Science budget is on track to increase from \$3.6 billion this year to \$5.3 billion in 2011, allowing for a 32 percent real increase in its R&D. And R&D in the NIST labs would grow by 54 percent in real terms, offset by the elimination of the Advanced Technology Program.

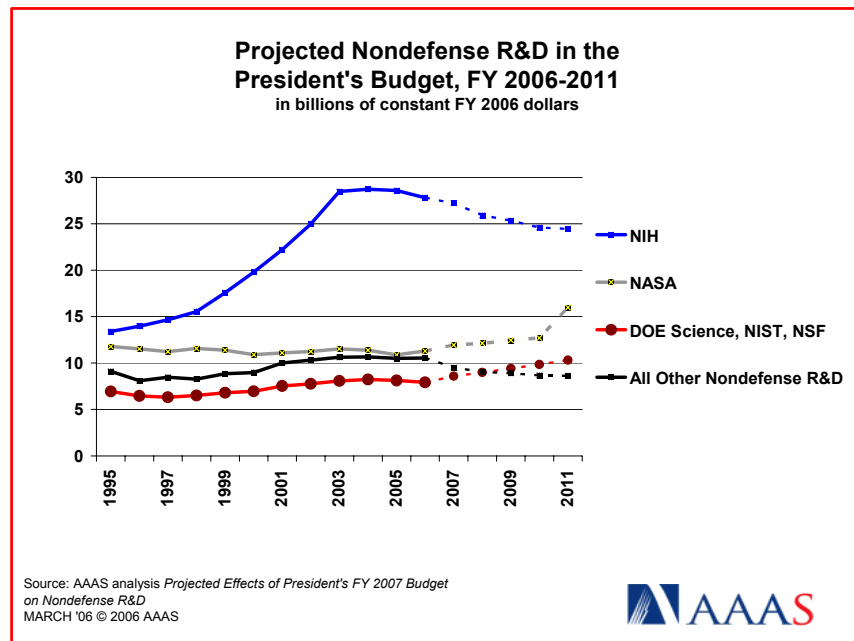


Figure 1.

- From \$28.6 billion this year and next, Administration plans show the National Institutes of Health (NIH) budget declining steadily to \$27.5 billion in 2010 before rebounding slightly to \$27.9 billion in 2011. **NIH R&D would fall 12.1 percent in real terms over 5 years** (see Figure 1).

- **Defense and homeland security R&D would reverse recent gains.** After dramatic increases over the past several years, DOD R&D would

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level off and decline in coming years. Pentagon projections show total DOD R&D falling from \$72.5 billion this year down to \$71.2 billion in 2011, a slight cut even before inflation but an 11.6 percent fall after expected inflation. DHS R&D would also fall after spectacular recent gains, losing ground by 4.6 percent in real terms by 2011.

- **Other nondefense R&D agencies are projected to see dramatic reductions in their R&D portfolios, falling between 10 and 30 percent over the next five years** (see Table I-10 and Figure 1). The U.S. Department of Agriculture (USDA) would be hard hit with a 28 percent real reduction in R&D by 2011. Environmental R&D agencies would lose close to 20 percent of their funding over the next five years, including EPA (down 17 percent), the U.S. Geological Survey (down 18 percent), and the National Oceanic and Atmospheric Administration (NOAA, down 19 percent).

- The Bush Administration's recently announced support for some alternative energy R&D technologies could be short-lived. The Energy Supply and Conservation budget account would increase substantially in 2007 but then slide back down in future years. Cuts in other areas of energy R&D proposed for 2007 would continue in future years, leaving DOE's energy R&D portfolio down 18 percent in real terms by 2011.

THE FY 2007 OUTYEAR PROJECTIONS IN HISTORICAL CONTEXT

Although the Bush Administration has done its best to hide these outyear projections and has dismissed them as mechanical exercises carrying no policy weight, **previous projections have been remarkably accurate in foretelling actual appropriations for federal R&D over the last few years** (see Figure 2). Figure 2 compares outyear projections from four previous budgets (FY 2002 through FY 2005; outyear projections were not available in the FY 2006 budget) as reported in previous AAAS R&D reports to the amounts actually appropriated.

Previous projections of the NIH budget flattening out and declining during this decade, considered alarmist and unrealistic at a time when the NIH budget was in the middle of a five-year doubling campaign, have foretold the flattening and now declining NIH budget of recent years with uncanny accuracy (see top lines on Figure 2). Despite all the turmoil and trouble at NASA and the announcement of the Vision for Space Exploration in early 2004, NASA R&D has followed previous

projections closely (bottom bars of Figure 2), showing the consistency with which the Administration has pursued a flat NASA funding profile.

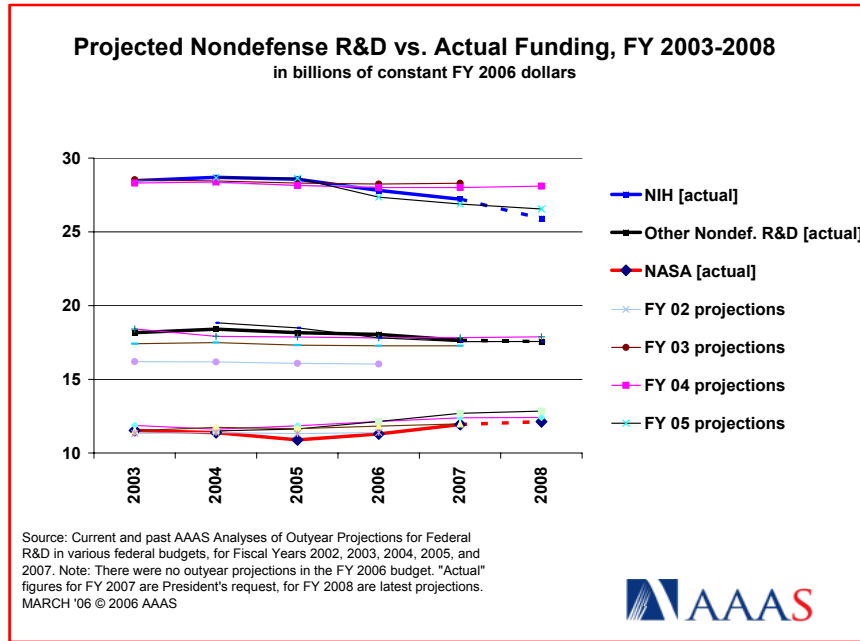


Figure 2.

The major deviation from the projections is in the Other Nondefense R&D category (middle bars of Figure 2), appropriations for which have turned out to be flat, but significantly above the FY 2001 and FY 2002 projections. But the FY 2001 projections were made before the fall 2001 terrorist attacks and therefore long before the now-substantial DHS R&D portfolio and other homeland security investments were on the drawing board, and the FY 2002 projections were a year before DHS was created.

The match of appropriations and requests to earlier projections show the consistency with which the Bush Administration has pursued its budget policies of restraining spending for domestic programs, and the willingness of a Congress controlled by the President's party to go along with his overall budget policies while making only minor adjustments on the details. Unlike outyear projections in the 1990s which turned out to be wildly off the mark for a host of reasons, nondefense R&D projections from earlier in the decade have matched eventual reality despite the many twists and turns taken by history this decade.