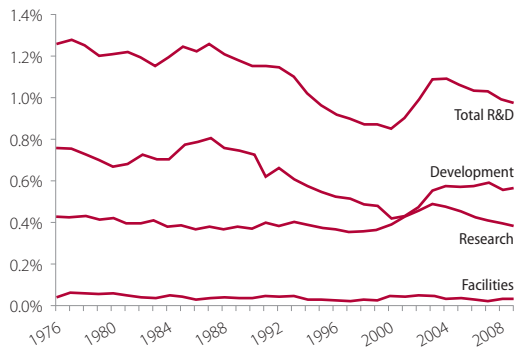


Federal Support for R&D

EVERY CONGRESSIONAL BUDGET brings new questions about how much support the government will provide for research and development in science and technology. To understand the context for current funding discussions, it helps to have the long view. But the key question, as Daniel Sarewitz, director of the Consortium for Science, Policy, and Outcomes at Arizona State University, pointed out in a summer 2007 article in *Issues In Science and Technology* is not just “how much” but “what for.” Here’s a snapshot of federal funding over several decades, with a close-up on the last congressional budget cycle for fiscal year 2008.

Trends in Federal R&D as Percentage of United States GDP, FY 1976–2009*

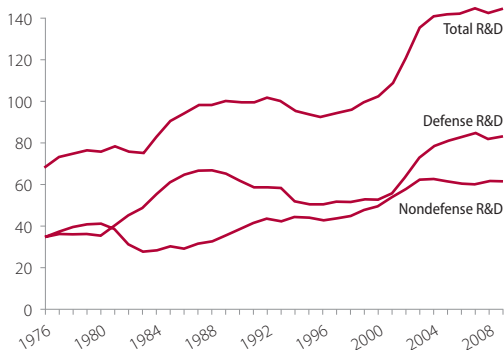


*FY 2009 figures are latest AAAS estimates of FY 2009 request.
Redrawn from AAAS R&D reports: <http://www.aaas.org/spp/rd/09pch2.htm>.

Government investment in R&D is shrinking relative to the size of the economy

Federal support of research and development as a proportion of U.S. gross domestic product is trending downward. Increases in Department of Defense weapons development have buoyed numbers in recent years, but non-defense spending has shrunk as a share of GDP since the end of the five-year push that doubled the National Institutes of Health budget from 1998 to 2003.

Trends in Federal R&D, FY 1976–2009*
(in billions of constant FY 2008 dollars)



*FY 2009 figures are latest AAAS estimates of FY 2009 request.
Redrawn from AAAS R&D reports: <http://www.aaas.org/spp/rd/09pch2.htm>.

More dollars, but insignificant growth

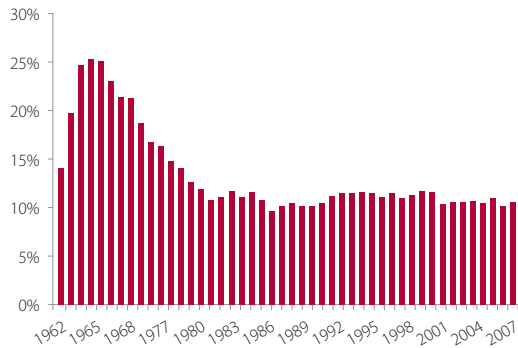
President Bush’s budget request would put federal R&D spending at \$147.4 billion, a record high. Again, much of the increase in recent years has gone to defence development while non-defense spending has remained relatively flat. Funding for the NIH has been flat since 2003, and accounting for inflation, the agency’s real buying power has declined 6 percent.

Funding trends do not meet the challenges of our current era

In fact, the share of non-defense federal funding that goes to R&D has remained relatively flat since the final Apollo mission in 1975.

Writing on the fiftieth anniversary of the launch of Sputnik, Vint Cerf, Google Vice President and Chief Internet Evangelist, described a “A New Scientific Resolve” in a *Science Progress* column: “Fifty years ago the United States rose to the challenge. Similarly, resources dedicated today to the challenge of global warming will ensure innovation continues to flourish across our planet.” That will require more federal funding.

Non-Defense R&D as a Percentage of Federal Non-Defense Discretionary Spending, FY 1962–2007



Redrawn from Daniel Sarewitz, “Does Science Policy Really Matter?” *Issues in Science and Technology*, Summer 2007. From AAAS historical funding tables.

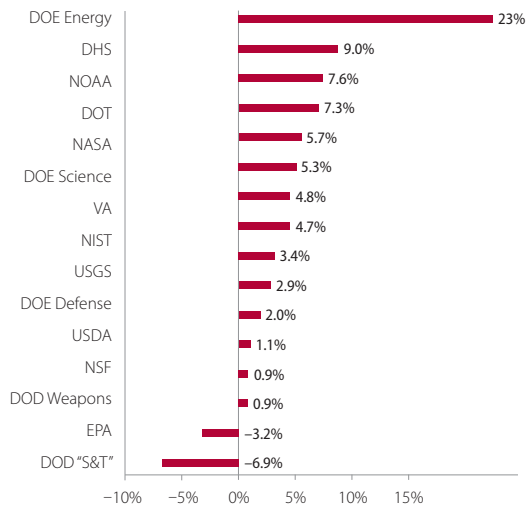
Crucial increases are not happening

In December 2007, after multiple continuing resolutions, Congress passed and the President signed an omnibus spending package. Increases in funding were modest for most federal research agencies. Overall, federal support for R&D declined for the fourth year in a row.

The budget did contain key boosts for Department of Energy research—a crucial area of work as we move the country toward a low-carbon economy.

In their report, “A National Innovation Agenda,” *Science Progress* Advisors Tom Kalil and John Irons recommend boosting the R&D budgets for the NIH, the National Institutes of Standards and Technology, the Department of Energy Office of Science, the DOD, and the National Science Foundation by ten percent a year over ten years. Unfortunately, there’s ground to be made up after 2008.

R&D Appropriations in FY 2008 Omnibus (percent change from FY 2007)



Redrawn from AAAS estimates of R&D in FY 2008 appropriation bills: <http://www.aaas.org/spp/rd/upd1207.htm>.