

Federal R&D Funding in the 2009 Budget

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April 9, 2008

for the Federation of Materials Societies
Congressional Visits Days
AAAS R&D Budget and Policy Program

<http://www.aaas.org/spp/rd>

See the “What’s New” section for the latest updates; see the “Seminars and Presentations” section for copies of this presentation.



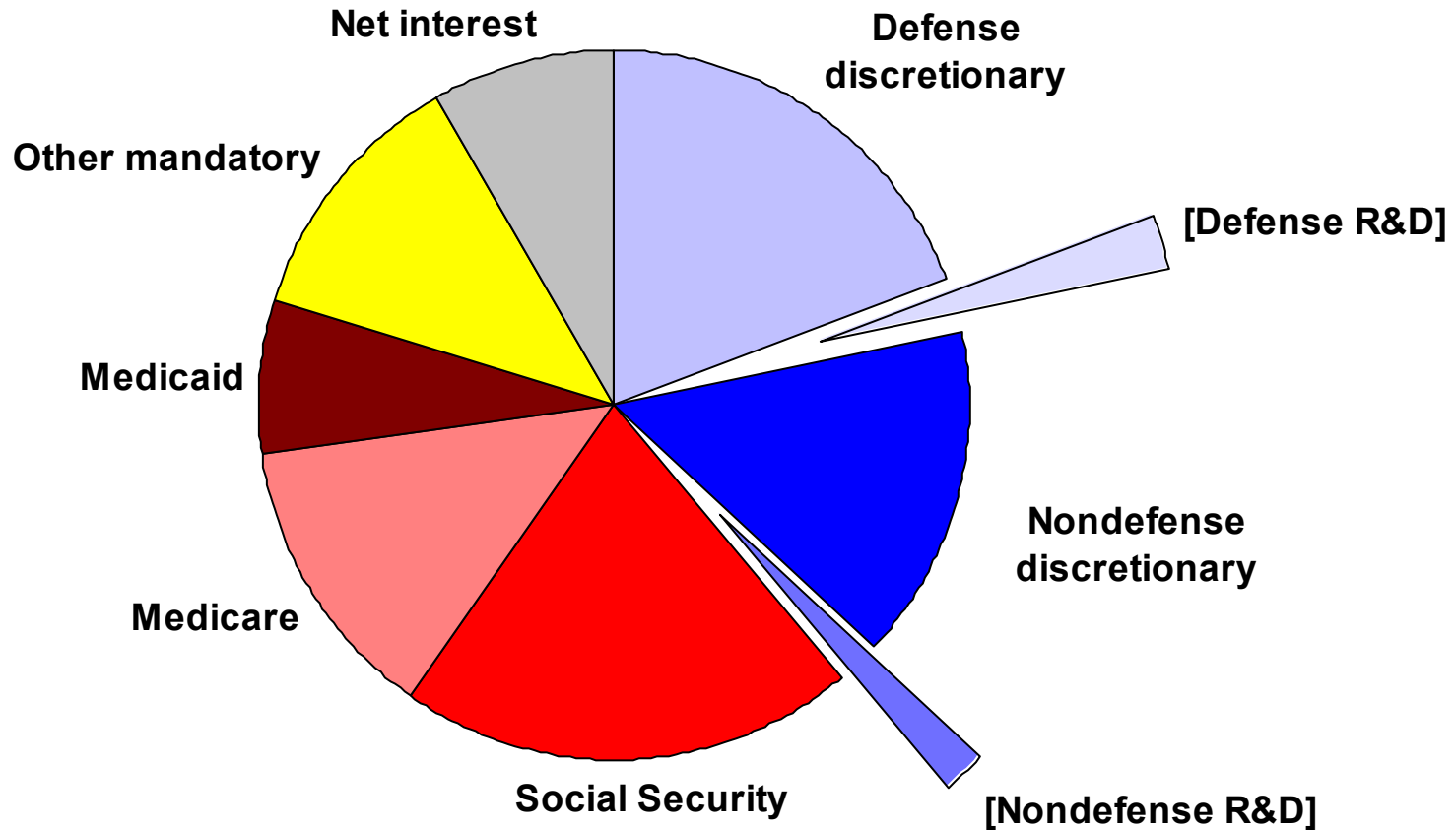
WELCOME TO WASHINGTON!

It's budget time on Capitol Hill. Between early February (President's proposed budget) and October 1 (start of fiscal 2009) Congress works on the federal budget.

- This week, Congress is working on:
 - A \$100+ billion 2008 supplemental for war costs.
 - A 2009 budget resolution (congressional big-picture budget plan).
 - Learning about the 2009 budget's details, and getting public input (from YOU) to inform appropriations (detailed spending decisions) later this year.
 - Also, a farm bill, and housing/mortgage stimulus.

Composition of the Proposed FY 2009 Budget

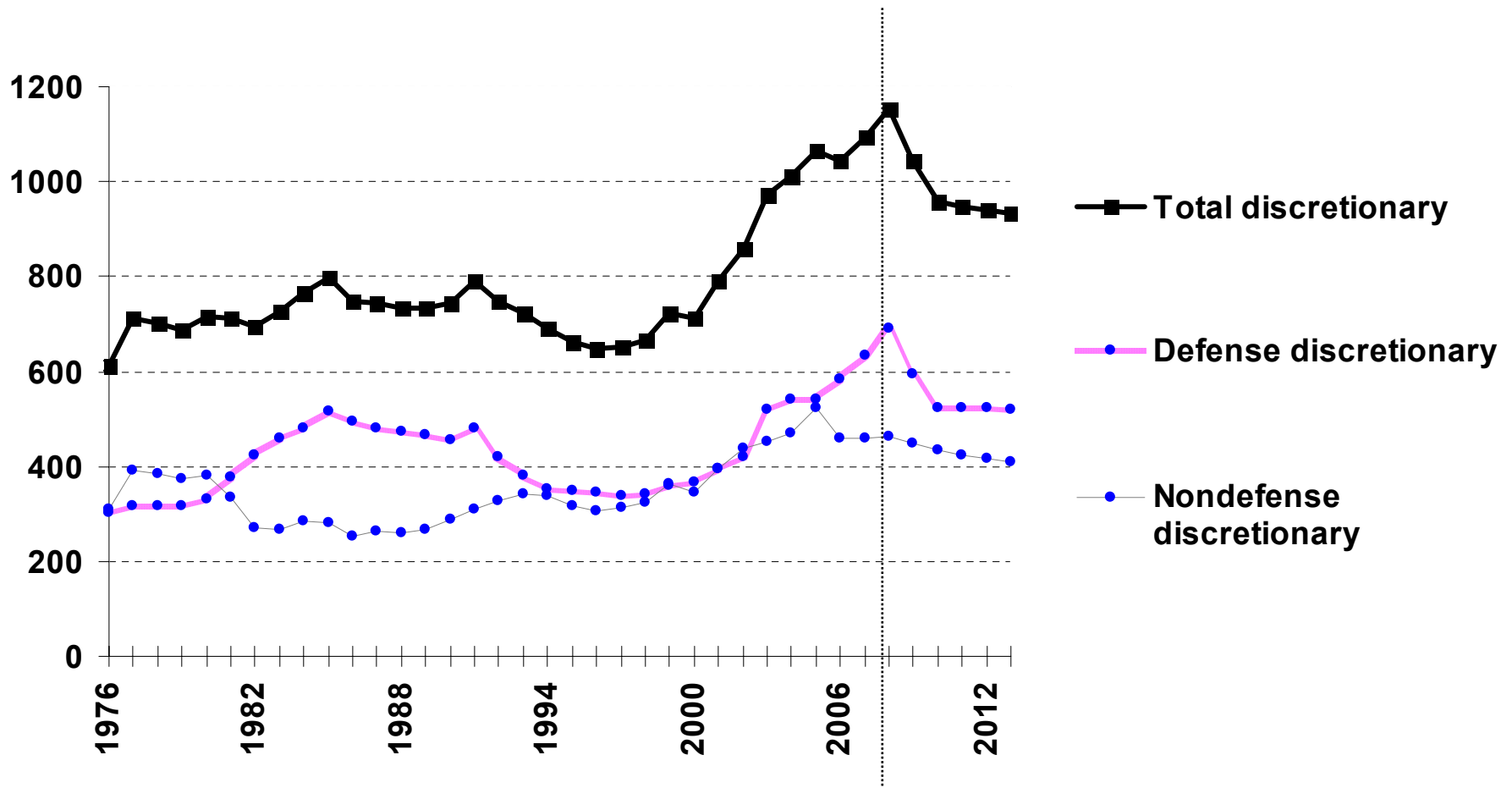
Total Outlays = \$3.1 trillion



Note: Projected Unified deficit is \$407 billion.
Figures exclude most Iraq and Afghanistan military costs.
Source: AAAS, based on *Budget of the United States Government FY 2009*.
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Trends in Discretionary Spending, FY 1976-2013

in billions of constant FY 2008 dollars



Data in fiscal years. Source: *Budget of the United States Government, FY 2009*.
FY 2008 data are estimates. FY 2009-2013 data are budget projections. FY 2009-2013 figures exclude Iraq and Afghanistan military costs.
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INNOVATION: MAKING PHYSICAL SCIENCES A PRIORITY

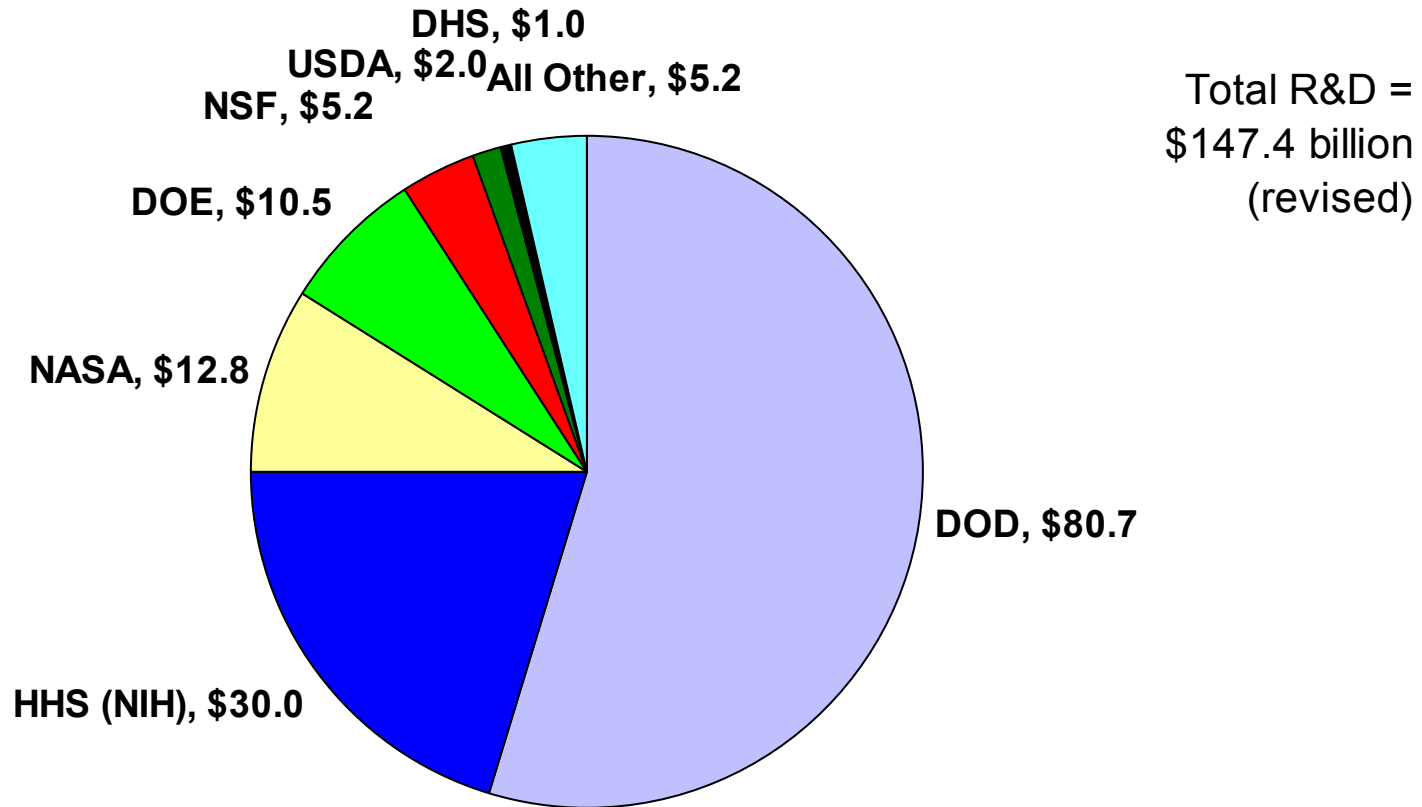
- President Bush announced the American Competitiveness (ACI) in his 2006 State of the Union address.
- The ACI is one of many responses to recent reports calling for a major government effort to address the innovation challenge. There are several congressional responses, culminating in the America COMPETES Act of August 2007.
- For R&D investments, the theme is boosting federal support for basic research in the physical sciences (broadly defined).
- The plan: Doubling the budgets of NSF, DOE Office of Science, and the NIST laboratories over 7 to 10 years.
- Federal R&D supports numerous federal missions such as defense, health, environment, and energy, in addition to boosting U.S. innovative capacity.

THE 2009 BUDGET

- President Bush proposes to reduce budget deficits by cutting domestic appropriations, and keeping most war costs out of the 2009 budget.
- R&D: The American Competitiveness Initiative (ACI) continues for a third year, with large increases for NSF, DOE Science, and the NIST labs to catch up to a 10-year doubling track.
- There would be large increases for DOD weapons and NASA spacecraft development, but also increases for most R&D programs.
- The NIH budget would be flat, agricultural and environmental R&D agencies would decline.

Total R&D by Agency: FY 2009 Proposed

Budget Authority in billions of dollars



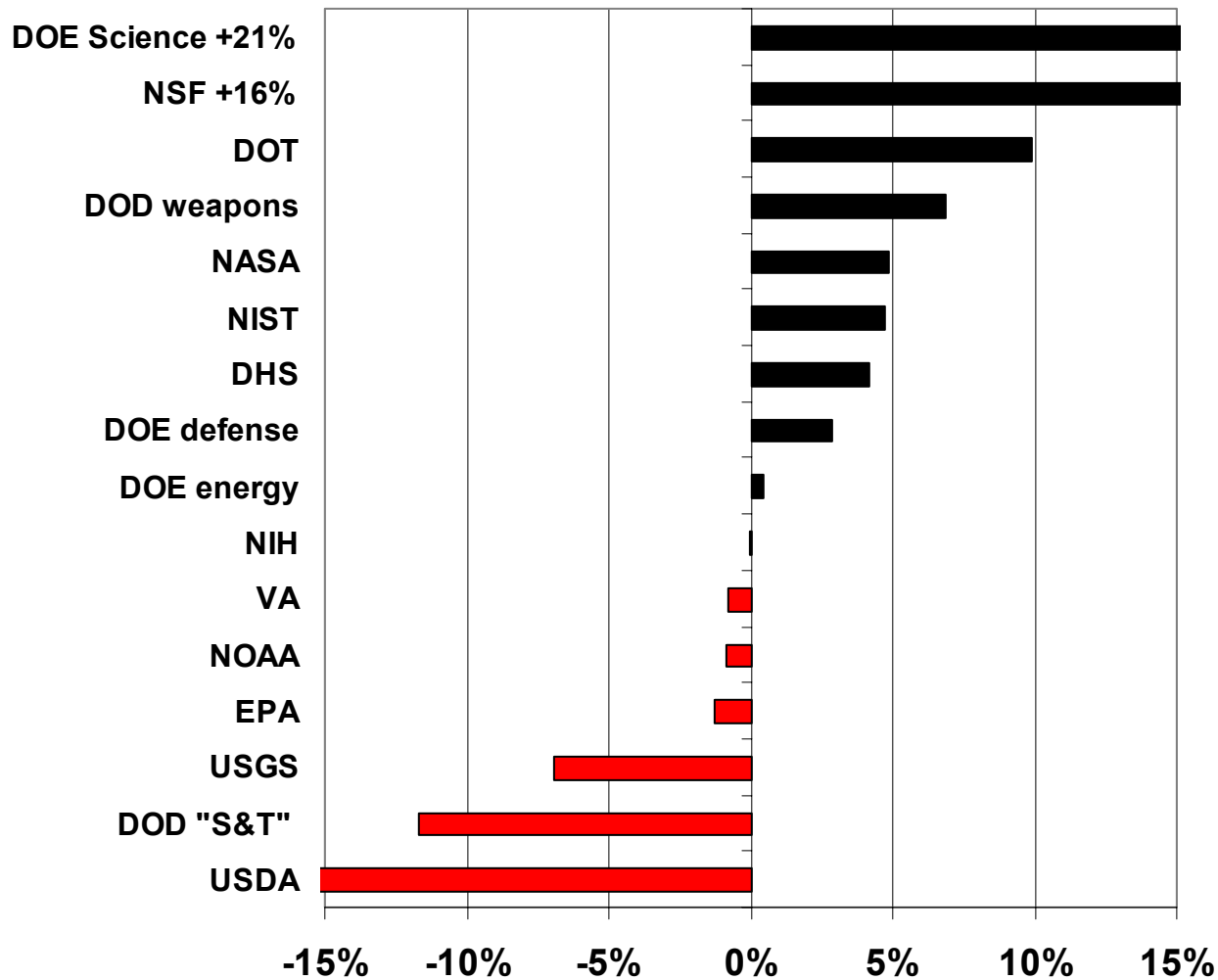
Source: AAAS, based on OMB R&D Budget Data and agency estimates for FY 2009.

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FY 2009 R&D Request

Percent Change from FY 2008

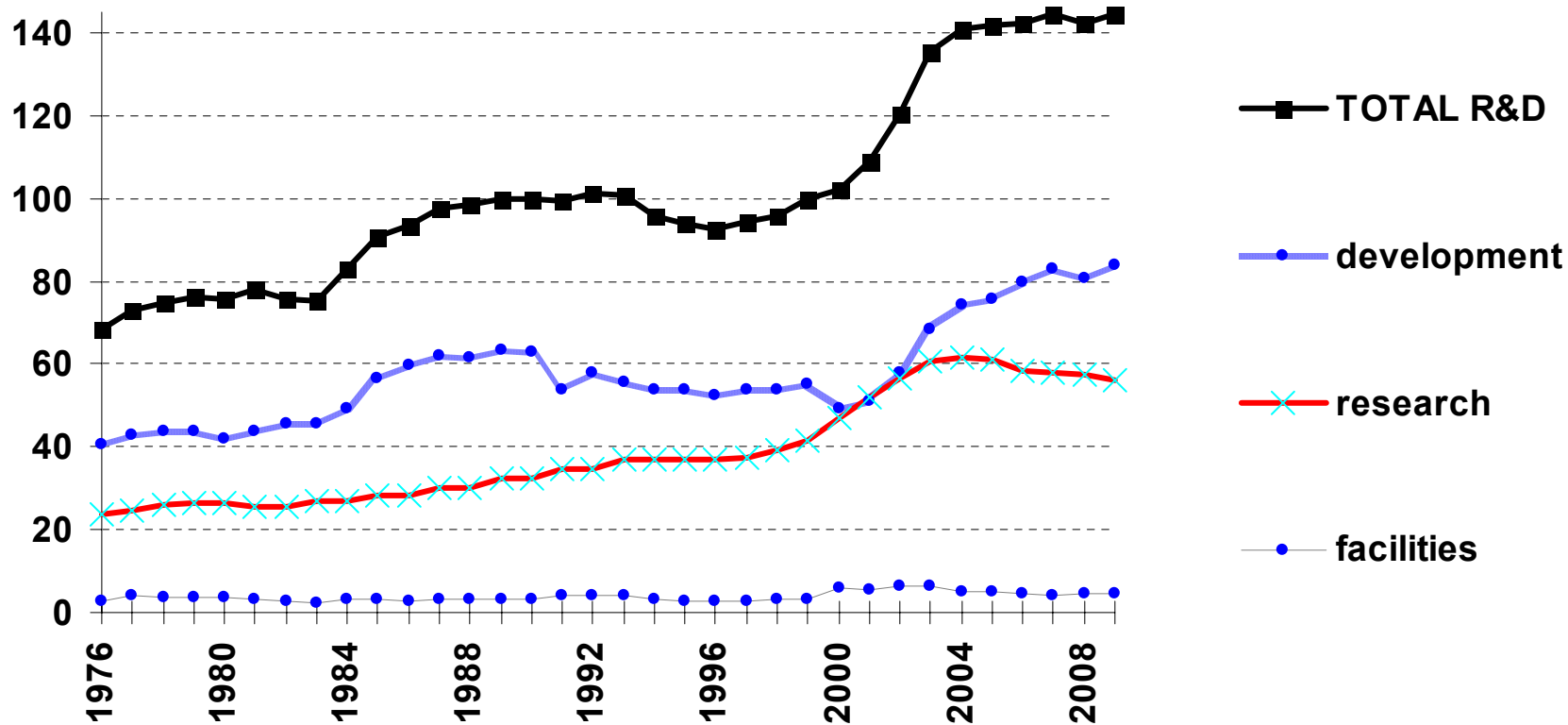


Source: AAAS, based on OMB R&D data and agency estimates for FY 2009.
 DOD "S&T" = DOD R&D in "6.1" through "6.3" categories plus medical research.
 DOD weapons = DOD R&D in "6.4" and higher categories.
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Trends in Federal R&D, FY 1976-2009 *

in billions of constant FY 2008 dollars



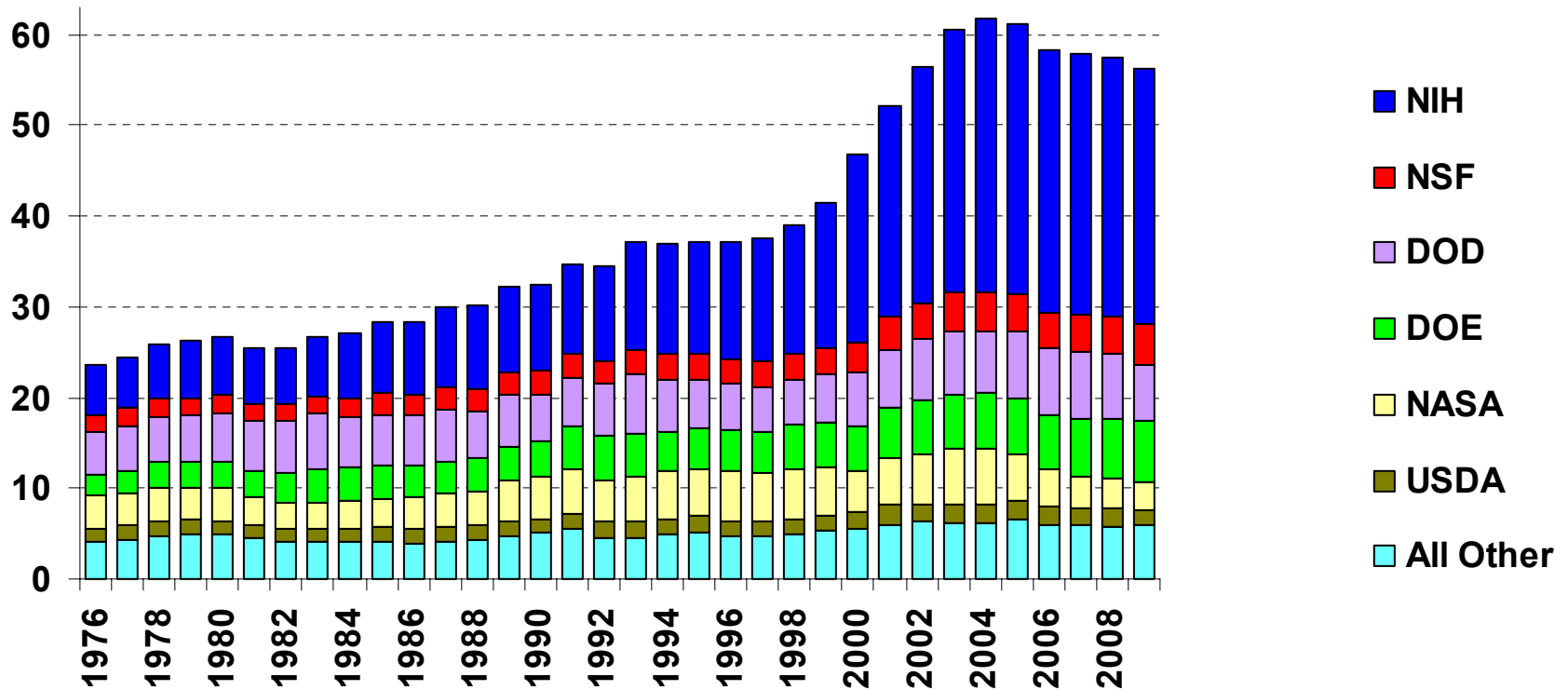
Source: AAAS analyses of R&D in annual AAAS R&D reports. * FY 2009 figures are latest AAAS estimates of FY 2009 request. R&D includes conduct of R&D and R&D facilities. Data to 1984 are obligations from the NSF Federal Funds survey. GDP figures are from OMB, Budget of the U.S. Government FY 2009.

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Trends in Research by Agency, FY 1976-2009 *

in billions of constant FY 2008 dollars



Source: AAAS analyses of R&D in annual AAAS R&D reports.

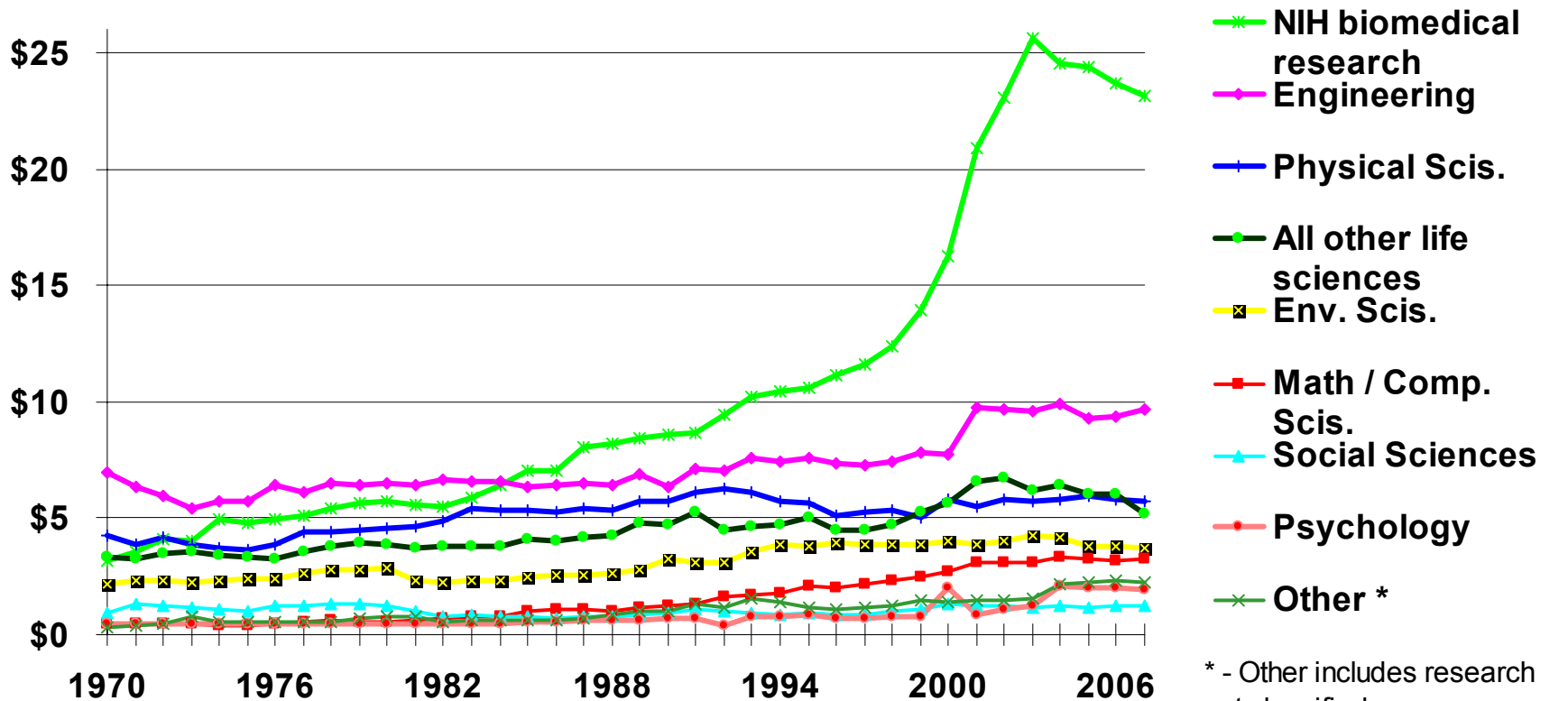
* FY 2009 figures are latest AAAS estimates of FY 2009 request. Research includes basic research and applied research. 1976-1994 figures are NSF data on obligations in the Federal Funds survey.

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Trends in Federal Research by Discipline, FY 1970-2007

obligations in billions of constant FY 2008 dollars



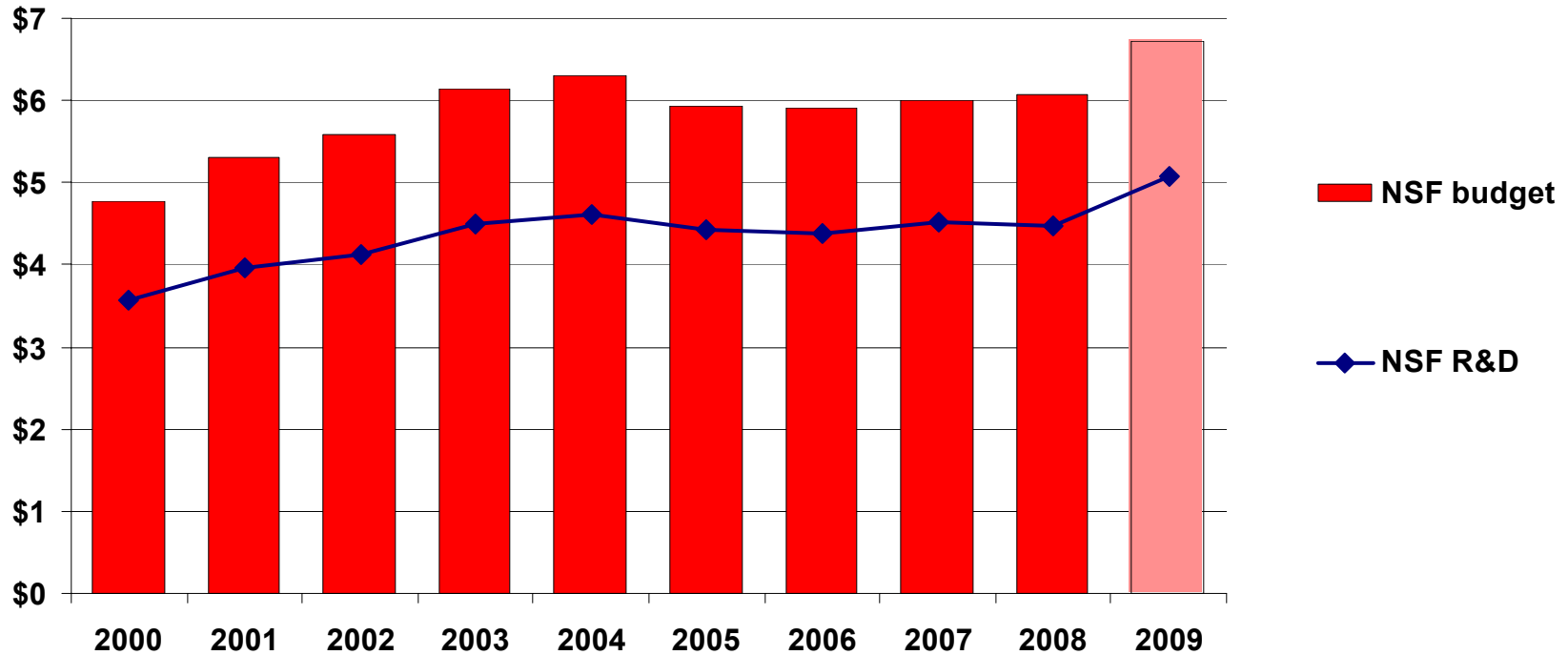
* - Other includes research not classified (includes basic research and applied research; excludes development and R&D facilities)

Life sciences - split into NIH support for biomedical research and all other agencies' support for life sciences.
 Source: National Science Foundation, *Federal Funds for Research and Development FY 2005, 2006, 2007, 2008*. FY 2006 and 2007 data are preliminary. Constant-dollar conversions based on OMB's GDP deflators. FEB. '08 © 2008 AAAS



National Science Foundation Budget, FY 2000-2009

(budget authority in billions of constant FY 2008 dollars)

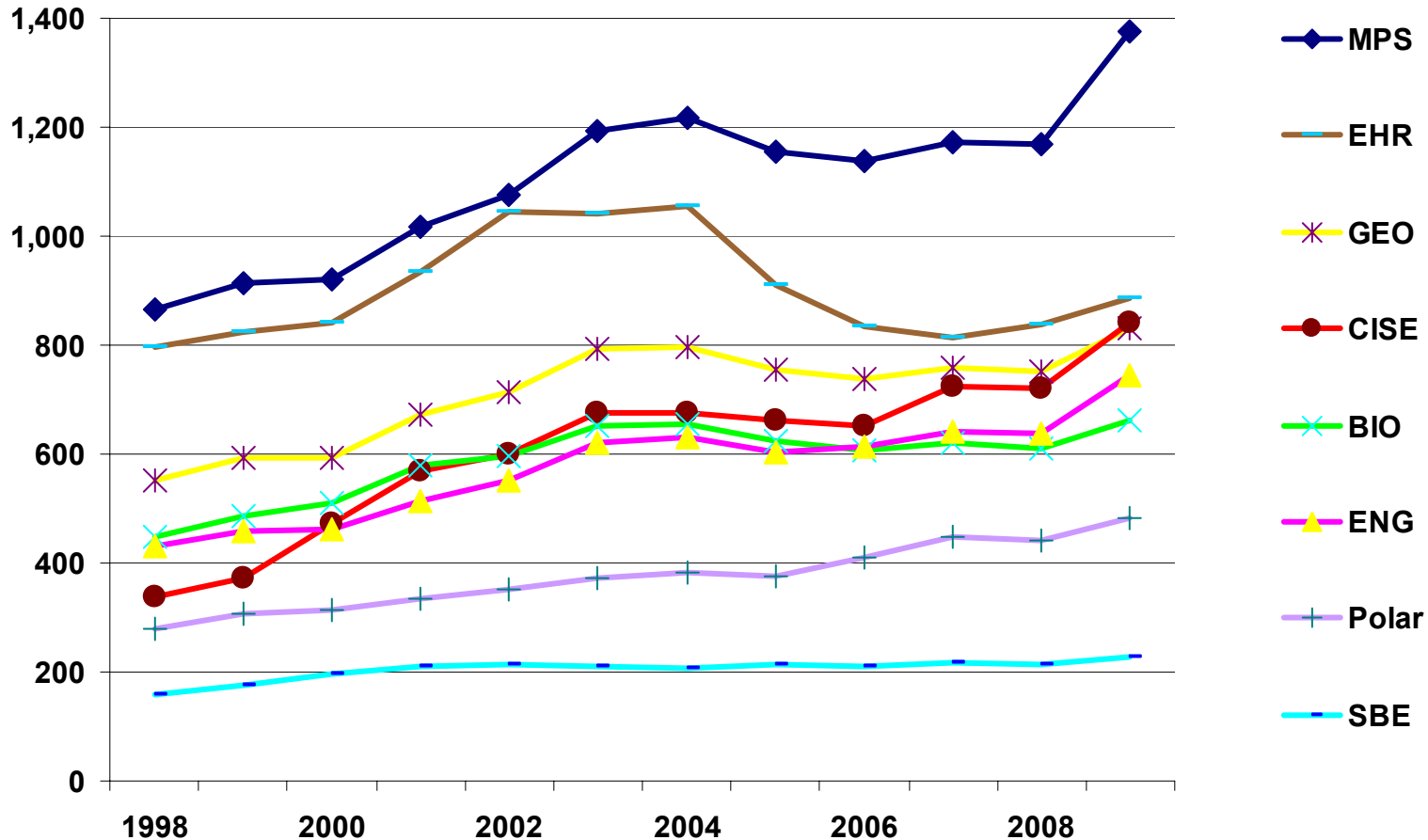


Source: National Science Foundation, and latest AAAS estimates of FY 2009 budget. FY 2009 is budget request.
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NSF Budget by Directorate, FY 1998-2009

(budget authority in millions of constant FY 2008 dollars)



Source: National Science Foundation data. FY 2009 figures are President's request.

CISE includes new Office of Cyberinfrastructure.

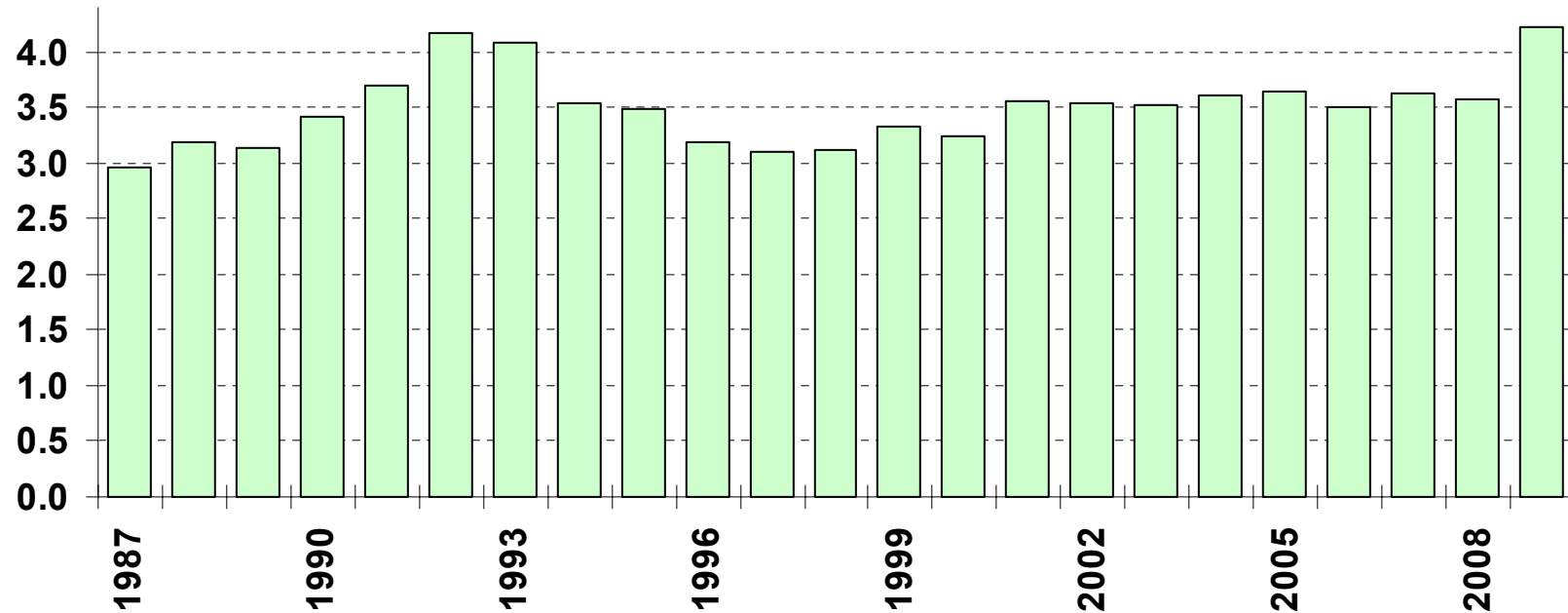
R&D and non-R&D components included in directorate budgets.

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Trends in DOE Office of Science R&D, FY 1987-2009 *

in billions of constant FY 2008 dollars



Source: AAAS analyses of R&D in *AAAS Reports VIII-XXXIII*. * FY 2009 figures are latest AAAS estimates of FY 2009 request.

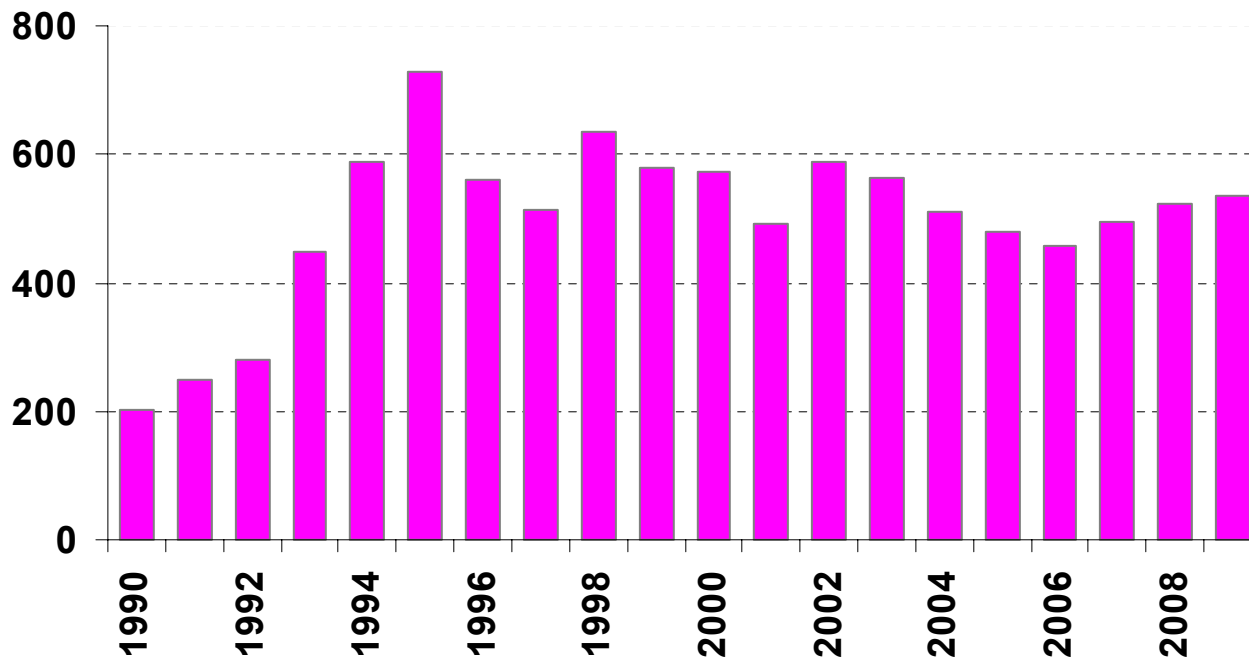
R&D includes conduct of R&D and R&D facilities.

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Trends in NIST R&D, FY 1990-2009 *

in millions of constant FY 2008 dollars



Source: AAAS analyses of R&D in AAAS *Reports VIII-XXXIII*. * FY 2009 figures are latest AAAS estimates of FY 2009 request.

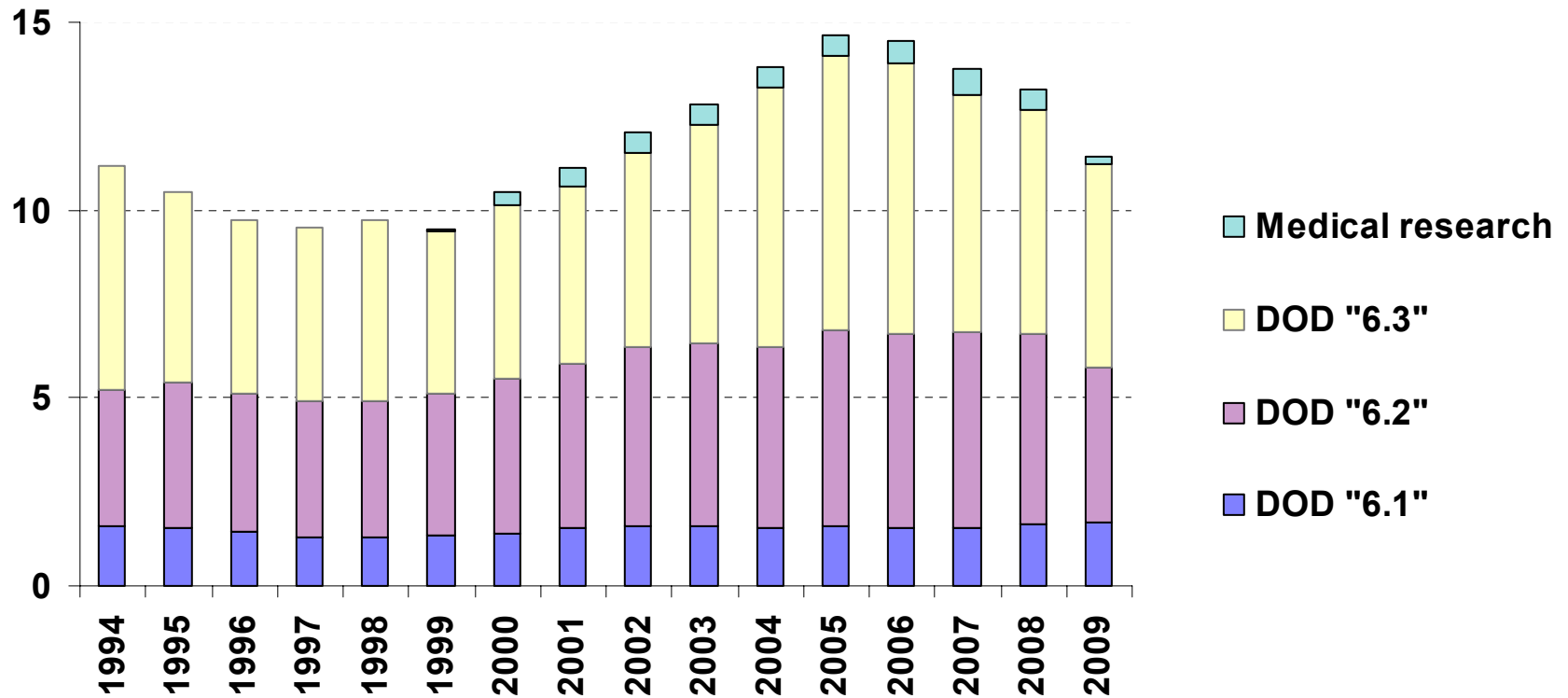
R&D includes conduct of R&D and R&D facilities.

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Trends in DOD "S&T", FY 1994-2009 *

in billions of constant FY 2008 dollars

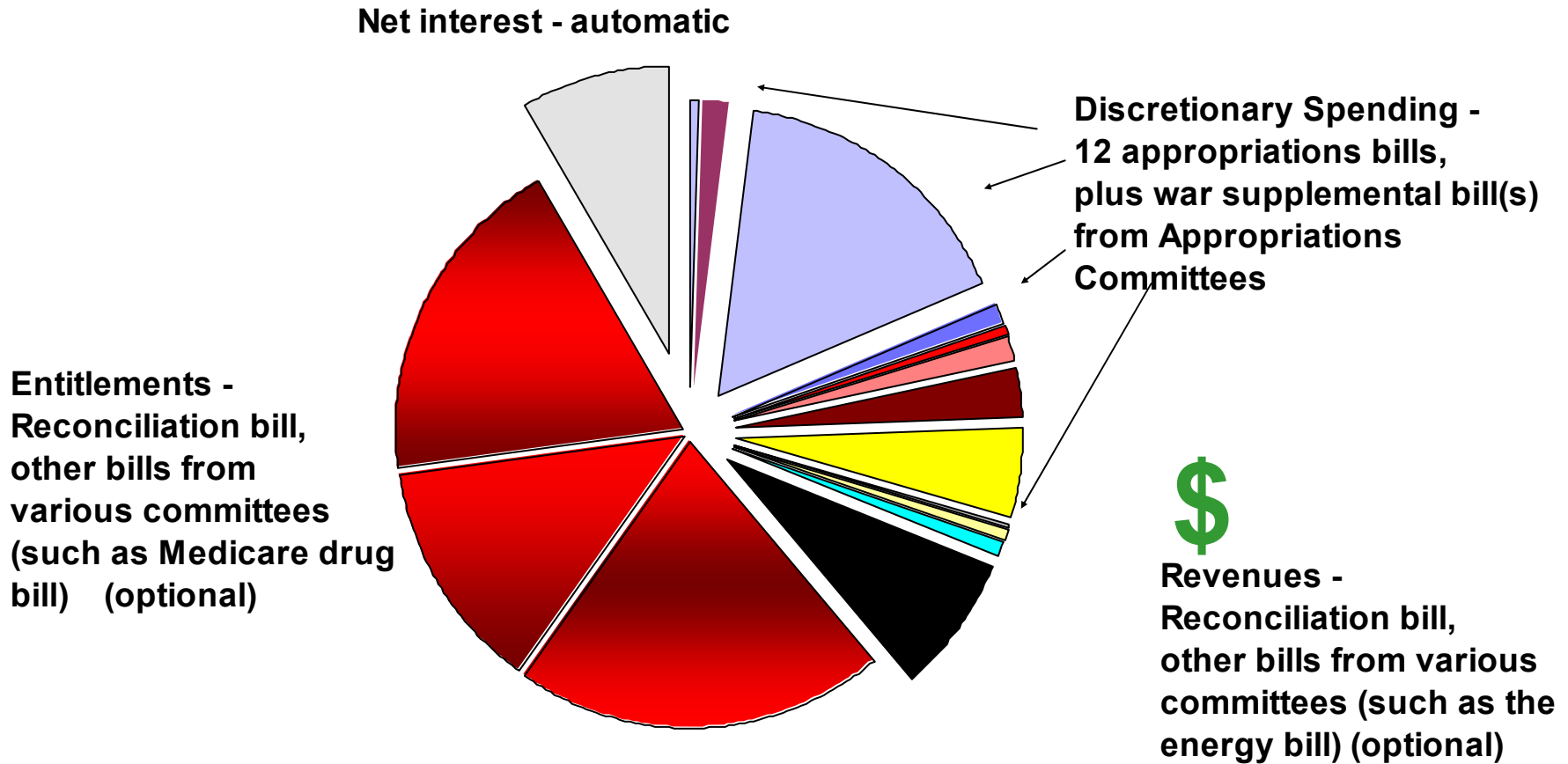


Source: AAAS analyses of R&D in annual AAAS R&D reports.
 * - FY 2009 figures are latest AAAS estimates of FY 2009 request.
 Medical research appropriated outside RDT&E; appropriated in "6.2" accounts before 1999.
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How the Budget Becomes Law

FY 2009 Proposal = \$3.1 Trillion

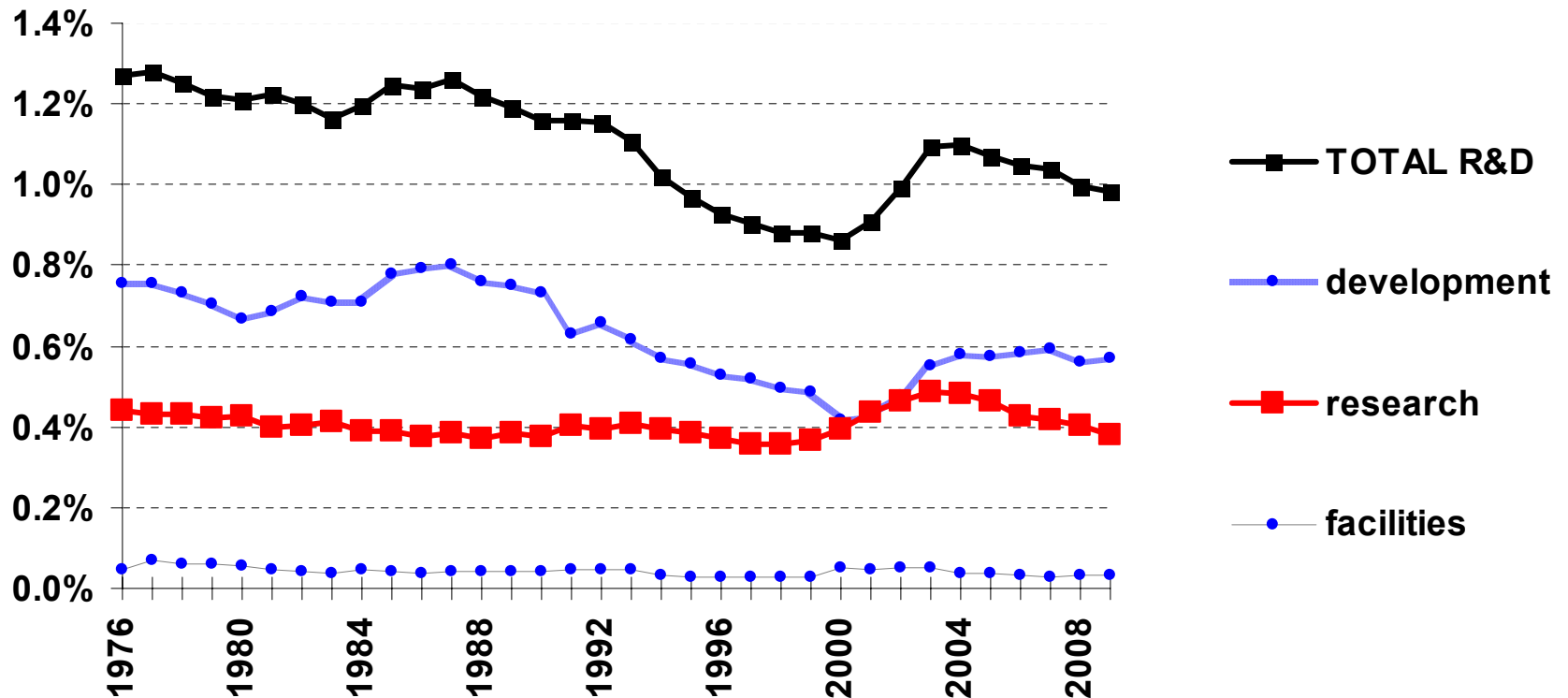


Source: AAAS, based on *Budget of the United States Government FY 2009*.
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WHAT ELSE IS HAPPENING

- Money is important, but so is policy.
- In response to a growing wave of concern over the state of U.S. innovation, in August 2007 Congress and the President enacted the America COMPETES Act to authorize many R&D, science and math education, and science and engineering workforce programs.
- Authorizing (policy) committees such as the House S&T Committee are considering follow-up legislation to encourage a strong innovation climate in the U.S.
- Science is an important input in many other policy areas, such as energy and climate change.

Trends in Federal R&D as % of GDP, FY 1976-2009 *



Source: AAAS analyses of R&D in annual AAAS R&D reports. * FY 2009 figures are latest AAAS estimates of FY 2009 request. R&D includes conduct of R&D and R&D facilities. Data to 1984 are obligations from the NSF Federal Funds survey. GDP figures are from OMB, Budget of the U.S. Government FY 2009.
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WHAT'S NEXT?

- Congress is considering the 2009 budget resolution, which could boost domestic appropriations by \$20-\$25 billion over the President's request. But the President has threatened vetoes.
- There could be R&D money in the 2008 war supplemental.
- If Congress is forced to stay with the President's total, then ACI and other increases will be trimmed to shore up funding for other domestic programs, as in 2008.
- Many of these proposed R&D increases are authorized in the America COMPETES Act and other legislation, but the problem is in finding the resources.
- The Appropriations Committees will try to write and pass 12 2009 appropriations bills by Oct. 1. But Congress could delay appropriations until the next President is in office.

FOR MORE INFORMATION...

The AAAS R&D web site is
www.aaas.org/spp/rd

The AAAS Forum on
Science and Technology
Policy is 8-9 May 2008
in Washington, DC

AAAS REPORT XXXIII

Research & Development FY 2009

Intersociety Working Group

