

Federal Funding for Neutron Science and Other Physical Sciences in the 2009 Budget

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for ACNS2008

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.

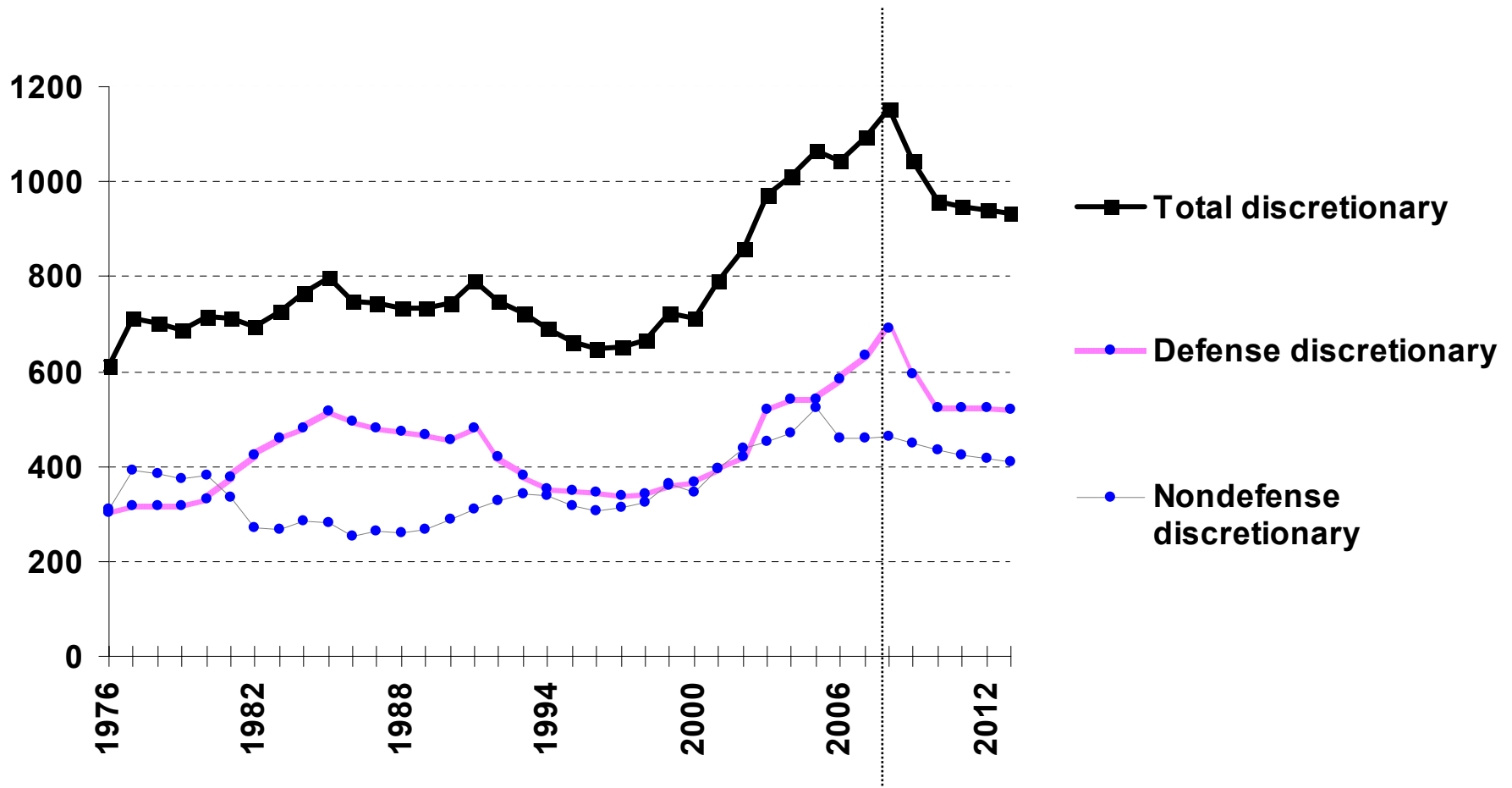


THE 2009 BUDGET

- The President has proposed a \$3.1 trillion budget for FY 2009.
- The budget deficit could approach a record \$500 billion this year and next year.
- To help control the deficit, the President proposes to keep domestic appropriations flat, and leaves war funding out of the budget beyond January 2009. The budget proposes steep cuts in many domestic programs and several program eliminations.

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

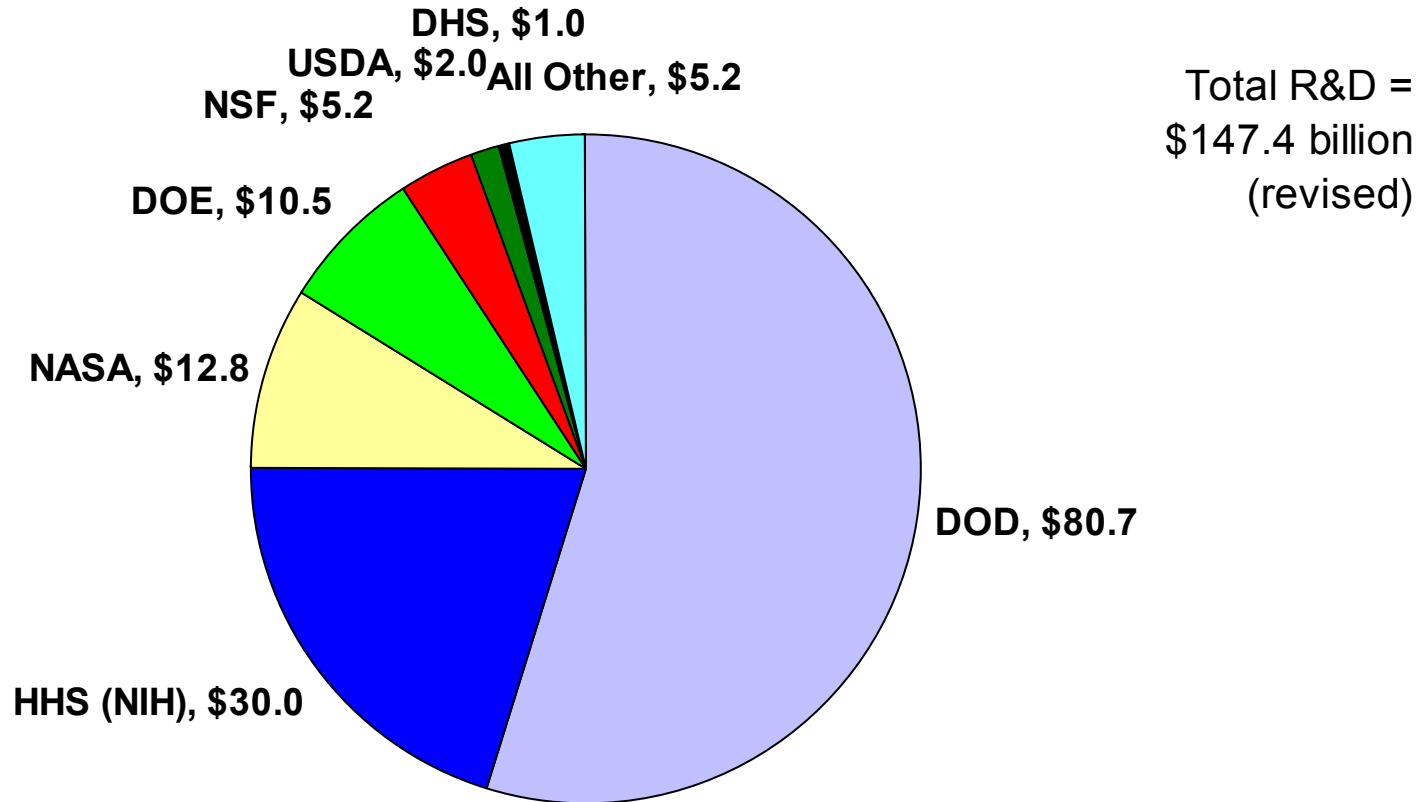
- President Bush announced the American Competitiveness (ACI) in his 2006 State of the Union address.
- The ACI is one of many responses to recent reports calling for a major government effort to address the innovation challenge. There are several congressional responses, culminating in the America COMPETES 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. So far, 2007 and 2008 appropriations have fallen short of the doubling track.

THE 2009 BUDGET FOR 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.
- Again, 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



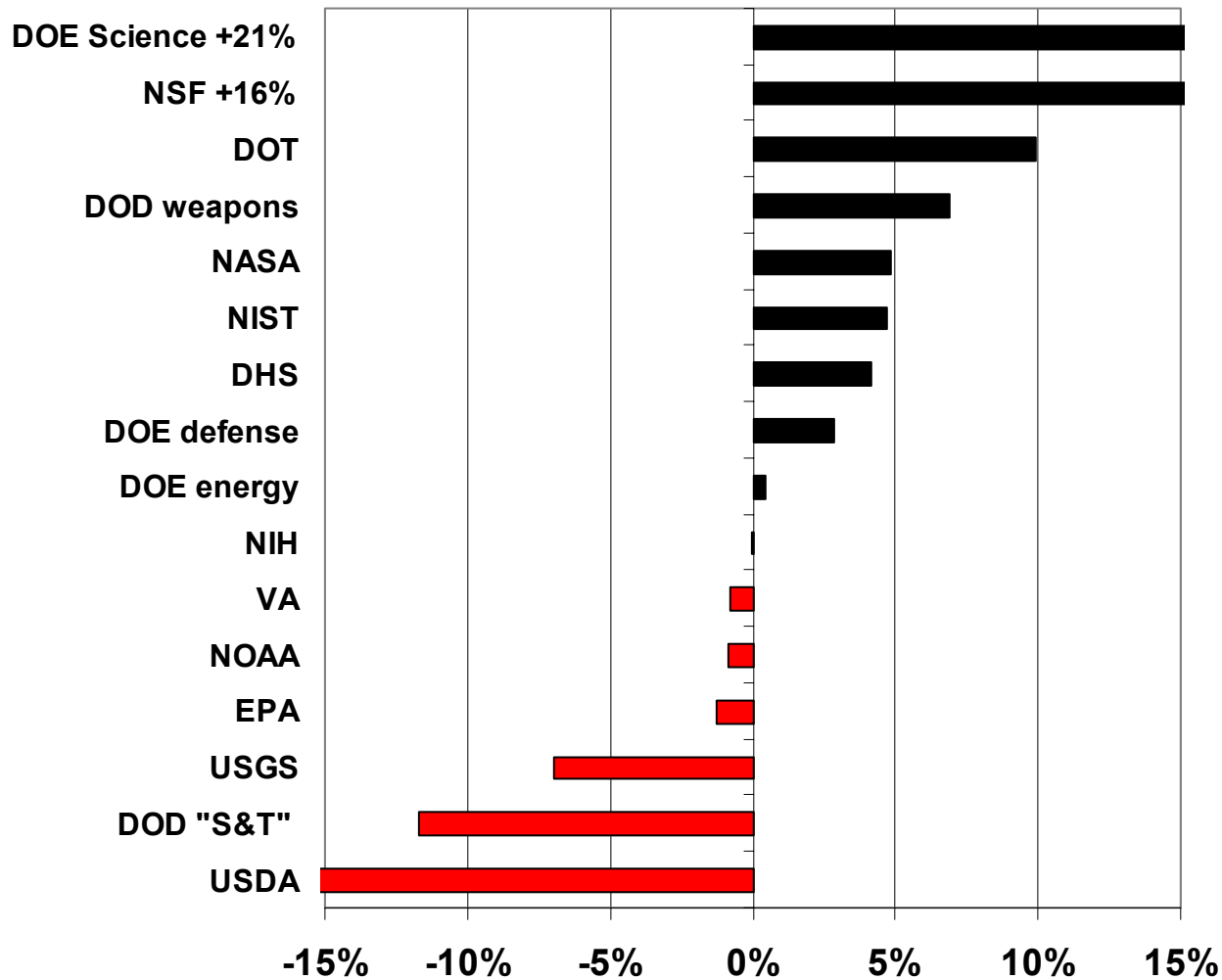
Source: AAAS, based on OMB R&D Budget Data and agency estimates for FY 2009.

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FY 2009 R&D Request

Percent Change from FY 2008

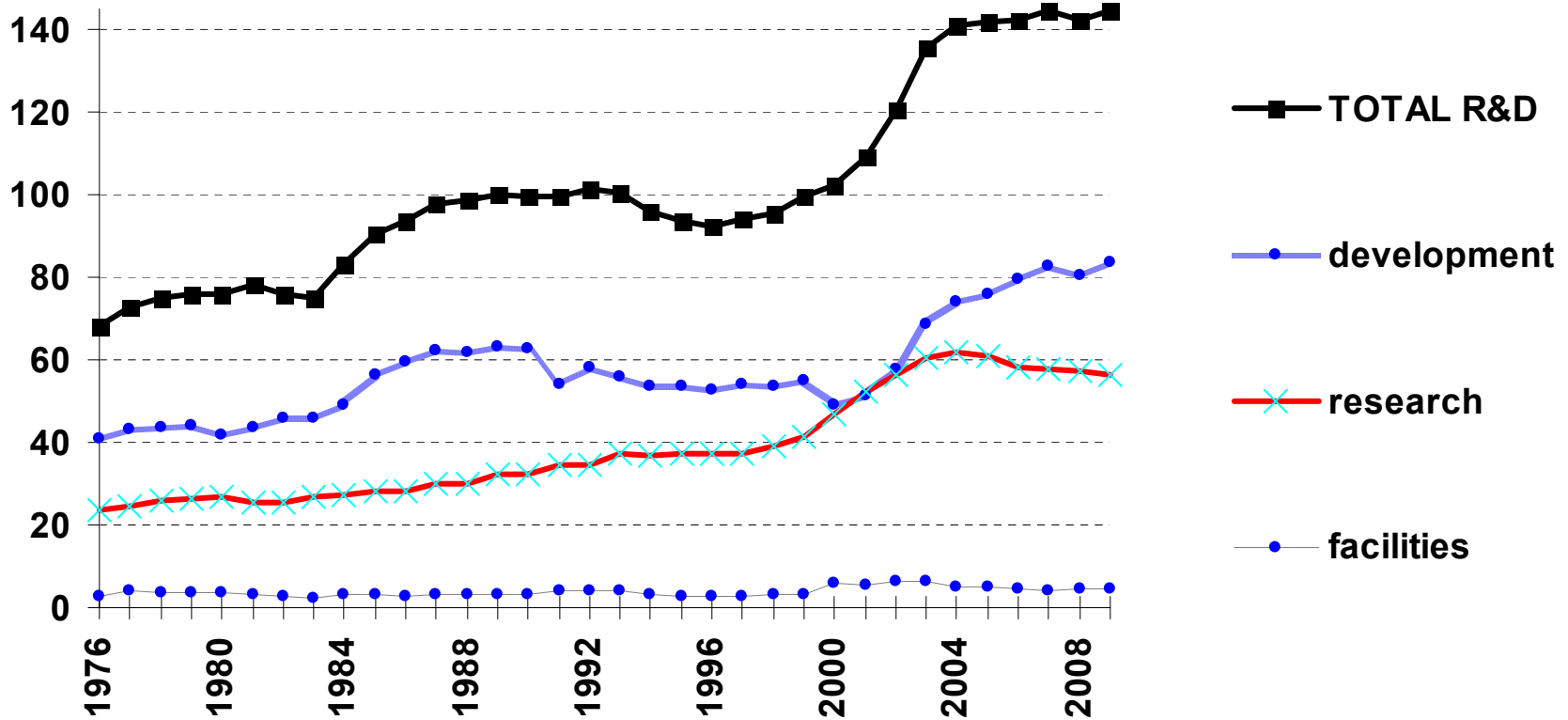


Source: AAAS, based on OMB R&D data and agency estimates for FY 2009.
DOD "S&T" = DOD R&D in "6.1" through "6.3" categories plus medical research.
DOD weapons = DOD R&D in "6.4" and higher categories.
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Trends in Federal R&D, FY 1976-2009 *

in billions of constant FY 2008 dollars

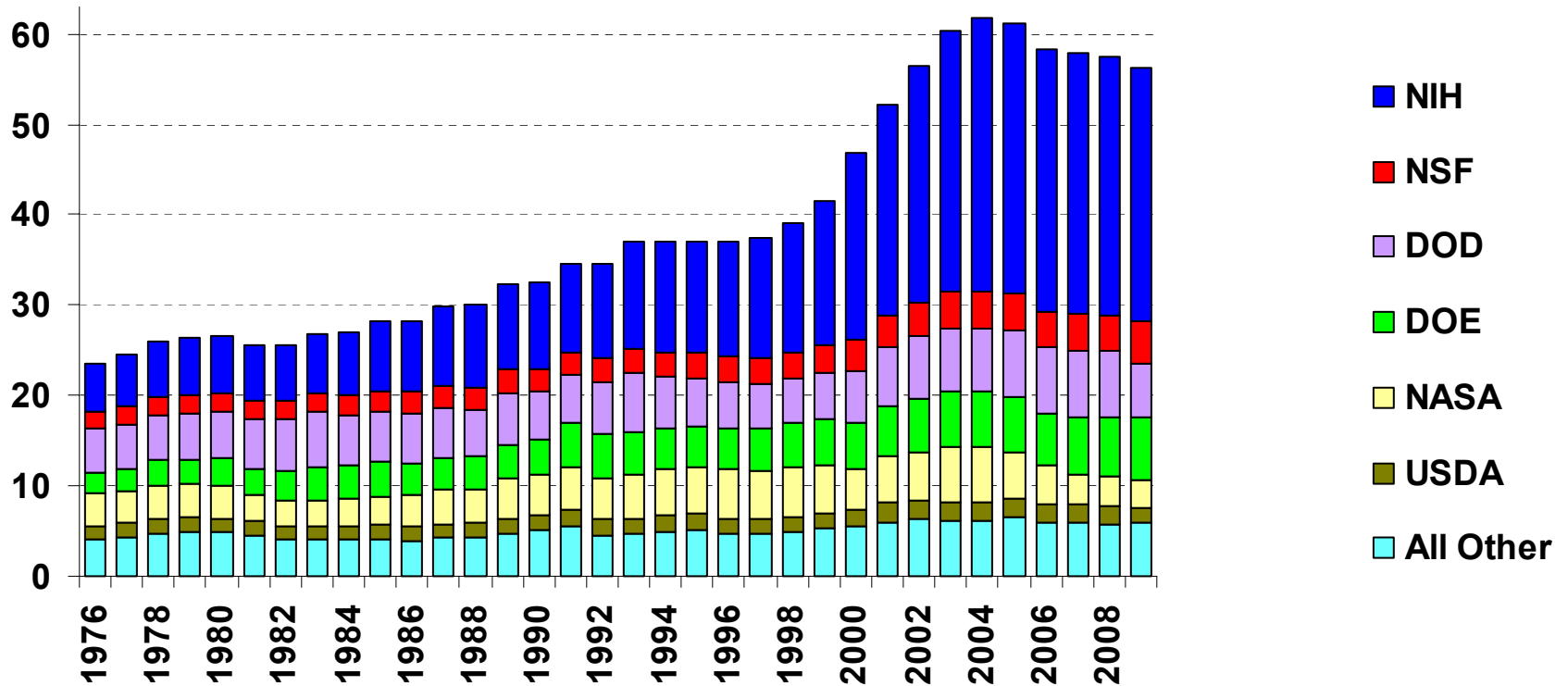


Source: AAAS analyses of R&D in annual AAAS R&D reports. * FY 2009 figures are latest AAAS estimates of FY 2009 request. R&D includes conduct of R&D and R&D facilities. Data to 1984 are obligations from the NSF Federal Funds survey. GDP figures are from OMB, Budget of the U.S. Government FY 2009.
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Trends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

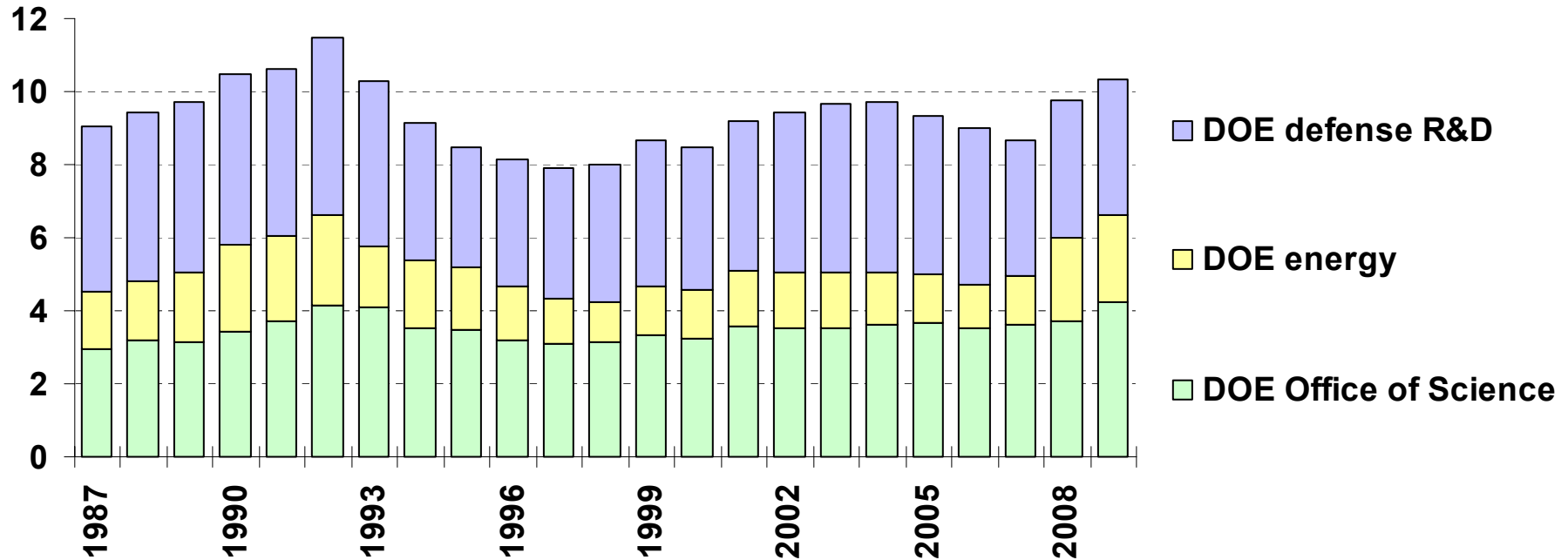
* FY 2009 figures are latest AAAS estimates of FY 2009 request. Research includes basic research and applied research. 1976-1994 figures are NSF data on obligations in the Federal Funds survey.

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Trends in DOE 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.

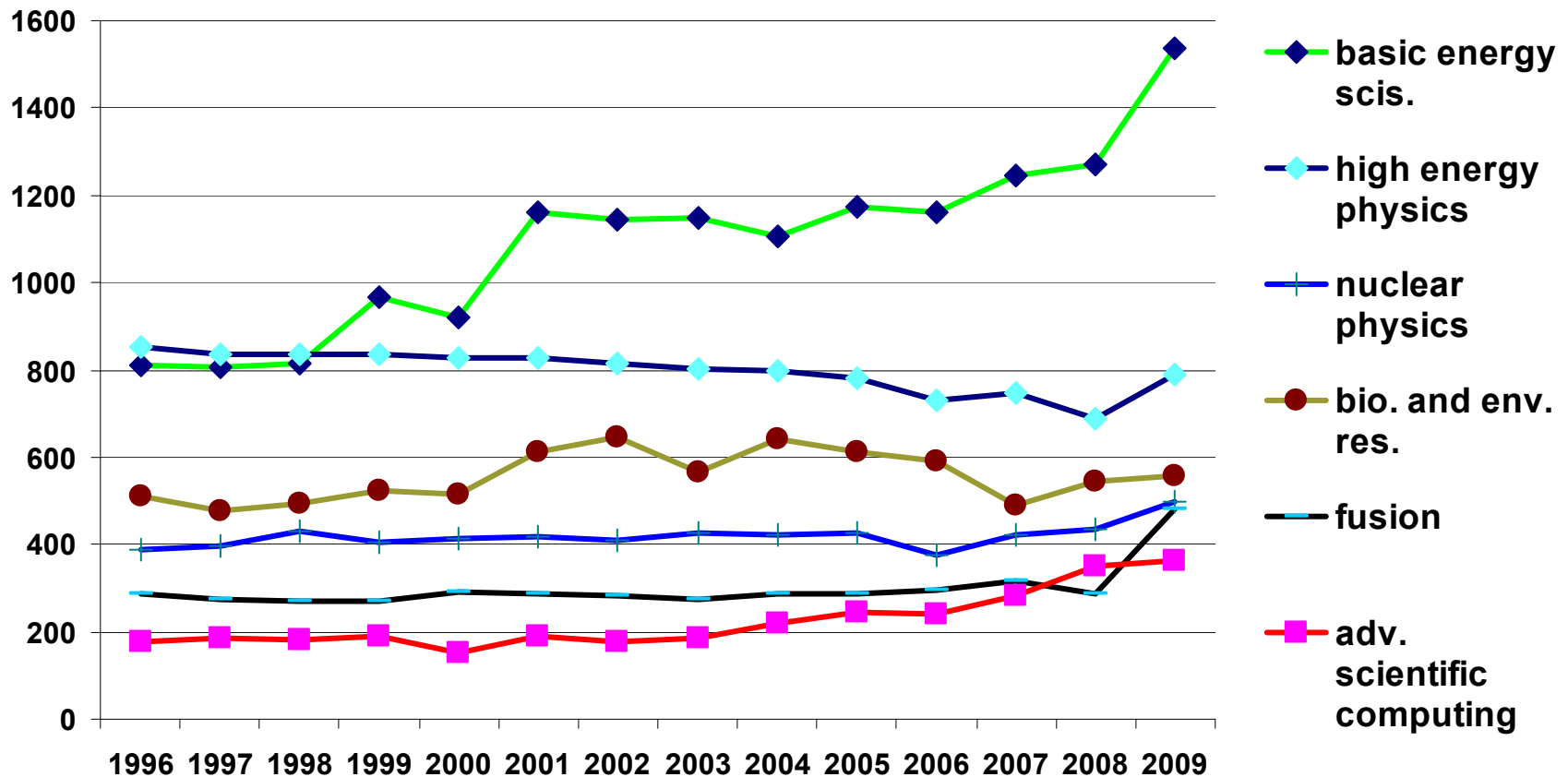
R&D includes conduct of R&D and R&D facilities.

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DOE Office of Science Programs, FY 1996-2009

(budget authority in millions of constant FY 2008 dollars)



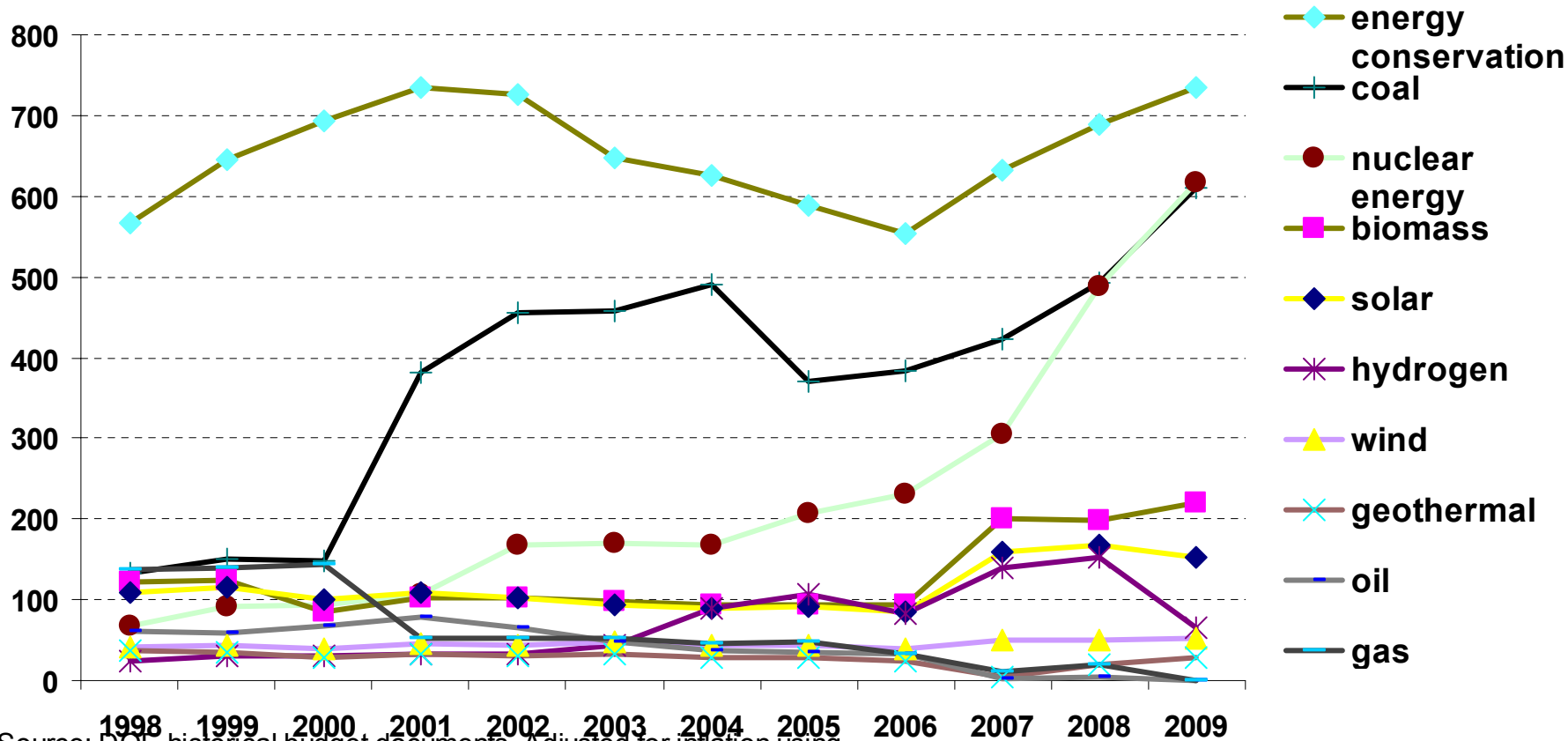
Source: AAAS Reports on R&D, various years, and DOE historical budget documents. Adjusted for inflation using OMB's GDP deflators. BES includes Spallation Neutron Source funds. BER includes earmarks for most years (not 2007 through 2009). FY 2009 figures are the budget request.

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Trends in the DOE Budget, FY 1998-2009

(budget authority in millions of constant FY 2008 dollars)

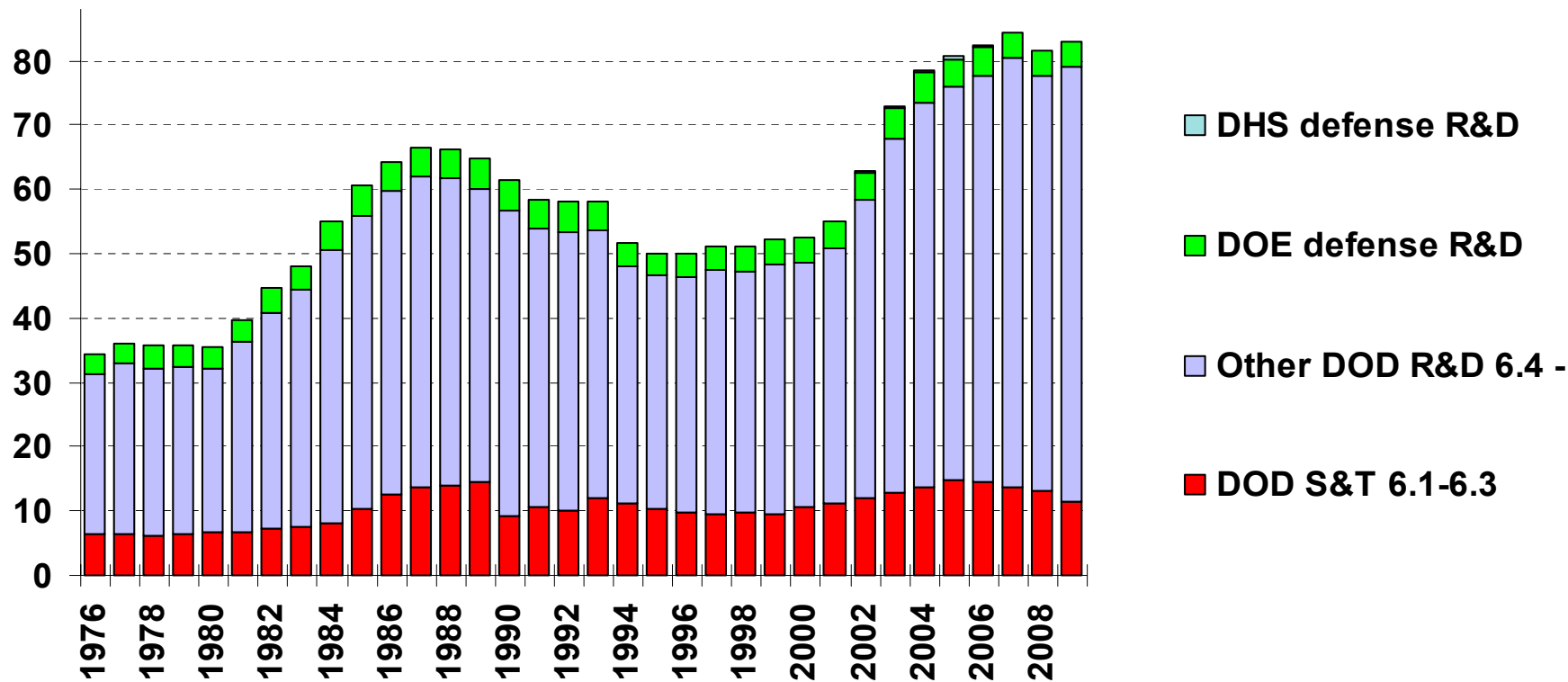


Source: DOE historical budget documents. Adjusted for inflation using OMB's GDP deflators. Line items include R&D and non-R&D components, and have been adjusted for comparability across years. Coal figures exclude previous Clean Coal Technology funds. FY 2008 figures are final appropriations; 2009 figures are latest estimates of FY 2009 request.
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Trends in Defense R&D, FY 1976-2009 *

in billions of constant FY 2008 dollars

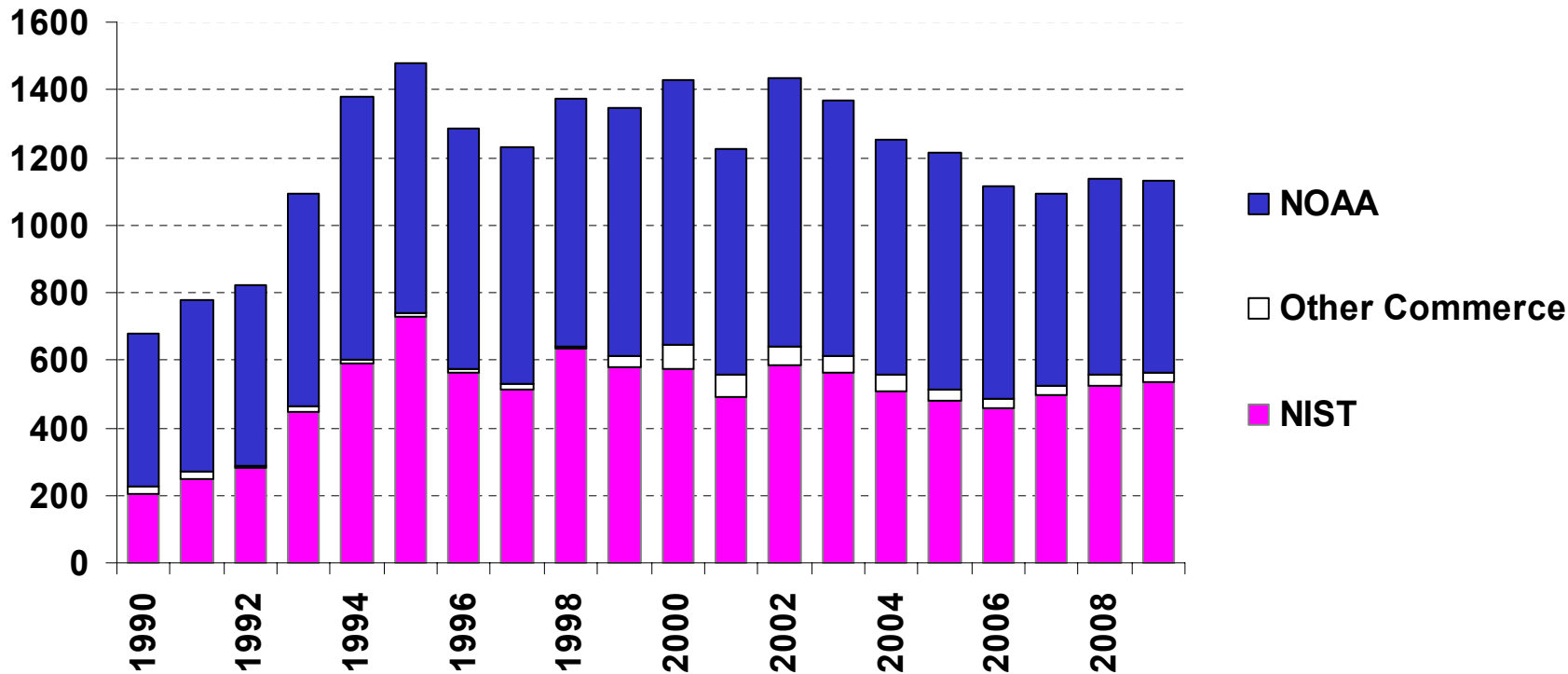


Source: AAAS analyses of R&D in annual R&D reports. * - FY 2009 figures are latest AAAS estimates of FY 2009 request. FY 2008 figures exclude pending supplementals. R&D includes conduct of R&D and R&D facilities. DOD S&T figures are not comparable for all years because of changing definitions.



Trends in Commerce 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.

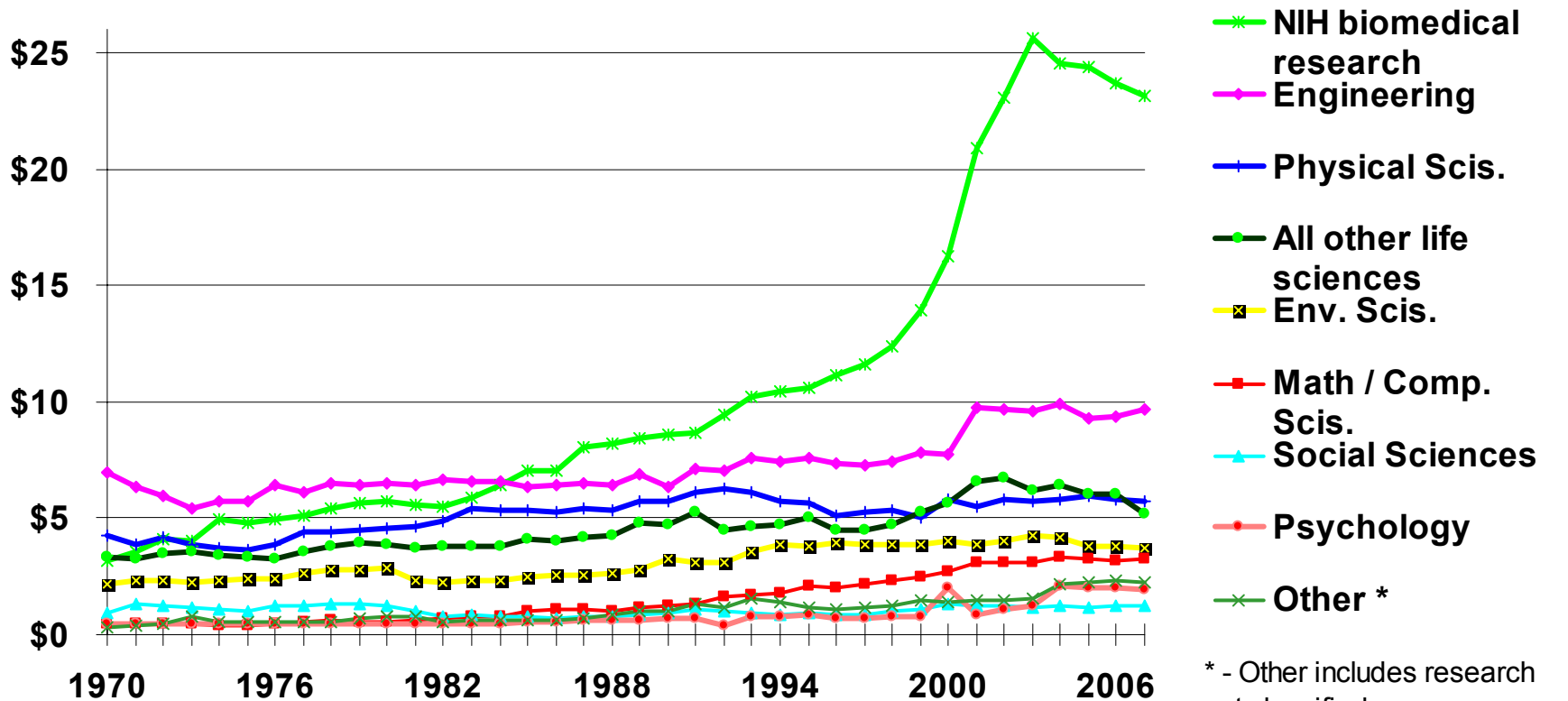
R&D includes conduct of R&D and R&D facilities.

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Trends in Federal Research by Discipline, FY 1970-2007

obligations in billions of constant FY 2008 dollars

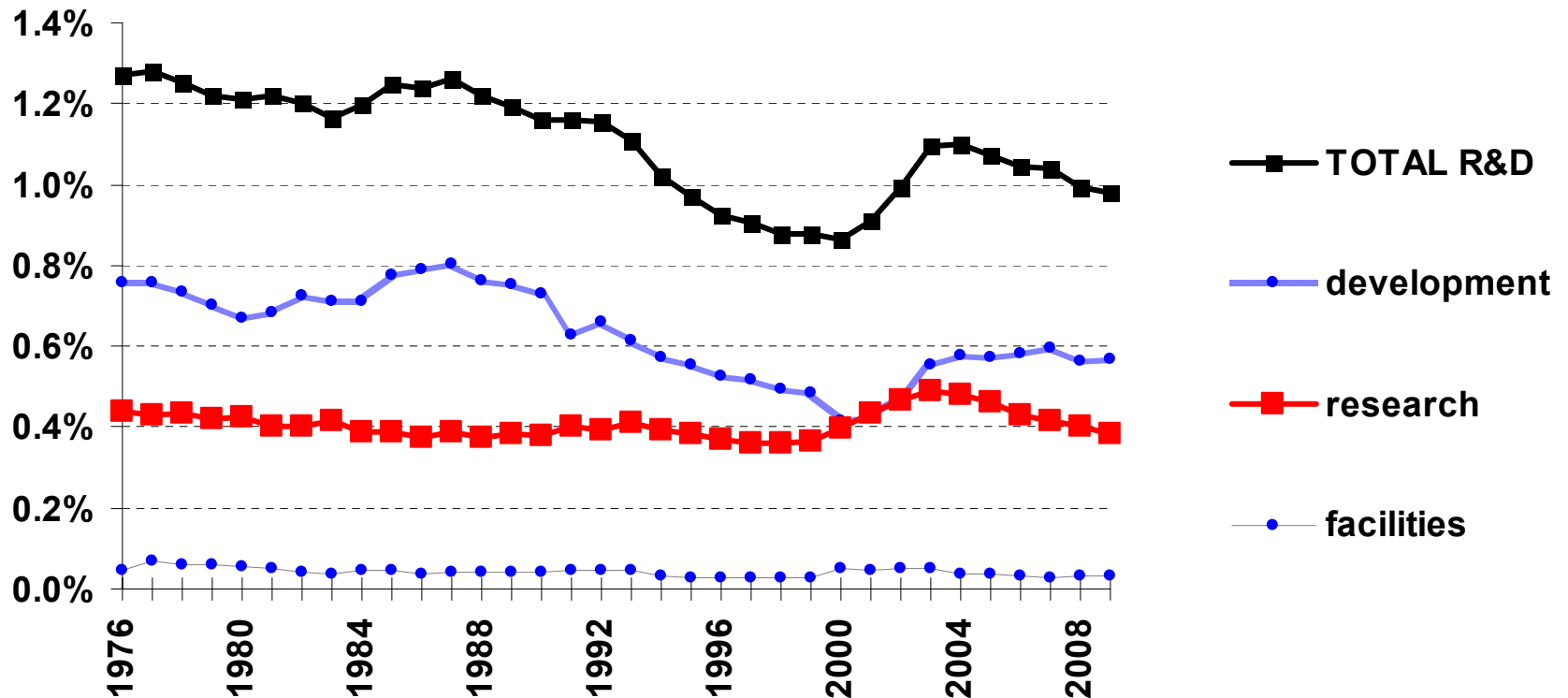


* - Other includes research not classified (includes basic research and applied research; excludes development and R&D facilities)

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



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?

- This week, Congress considers a \$180+ billion supplemental bill primarily for war costs through the end of the year. There could be science funding in it (DOE Science, NSF, and NIST), but any funds would be too late to reverse DOE facilities closings.
- Congress wants to finalize the FY 2009 budget resolution, which could boost domestic appropriations by up to \$24 billion over the President's request. But the President has threatened to veto any appropriations that exceed his request.
- 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. But Congress is already considering delaying appropriations until the next President is in office.

FOR MORE INFORMATION...

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

AAAS REPORT XXXIII

Research & Development FY 2009

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