

Biological Sciences in the Federal R&D Portfolio

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for the NSF BIO Advisory Committee

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.

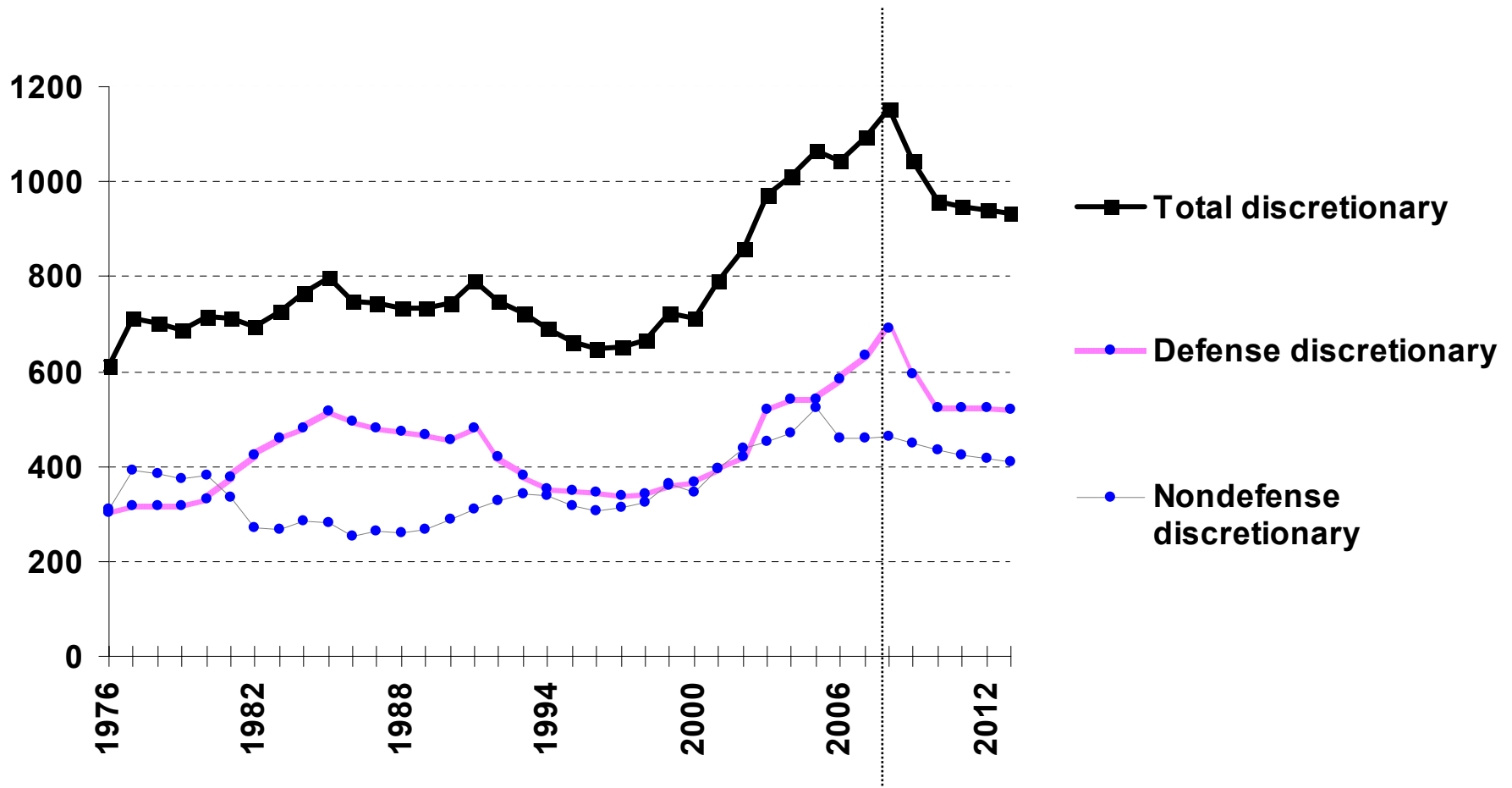


THE 2009 BUDGET

- The President proposes a \$3.1 trillion budget for FY 2009.
- To help control the deficit, the President proposes to keep domestic appropriations flat in 2009; domestic spending has been flat in real terms since 2004.
- The President's 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

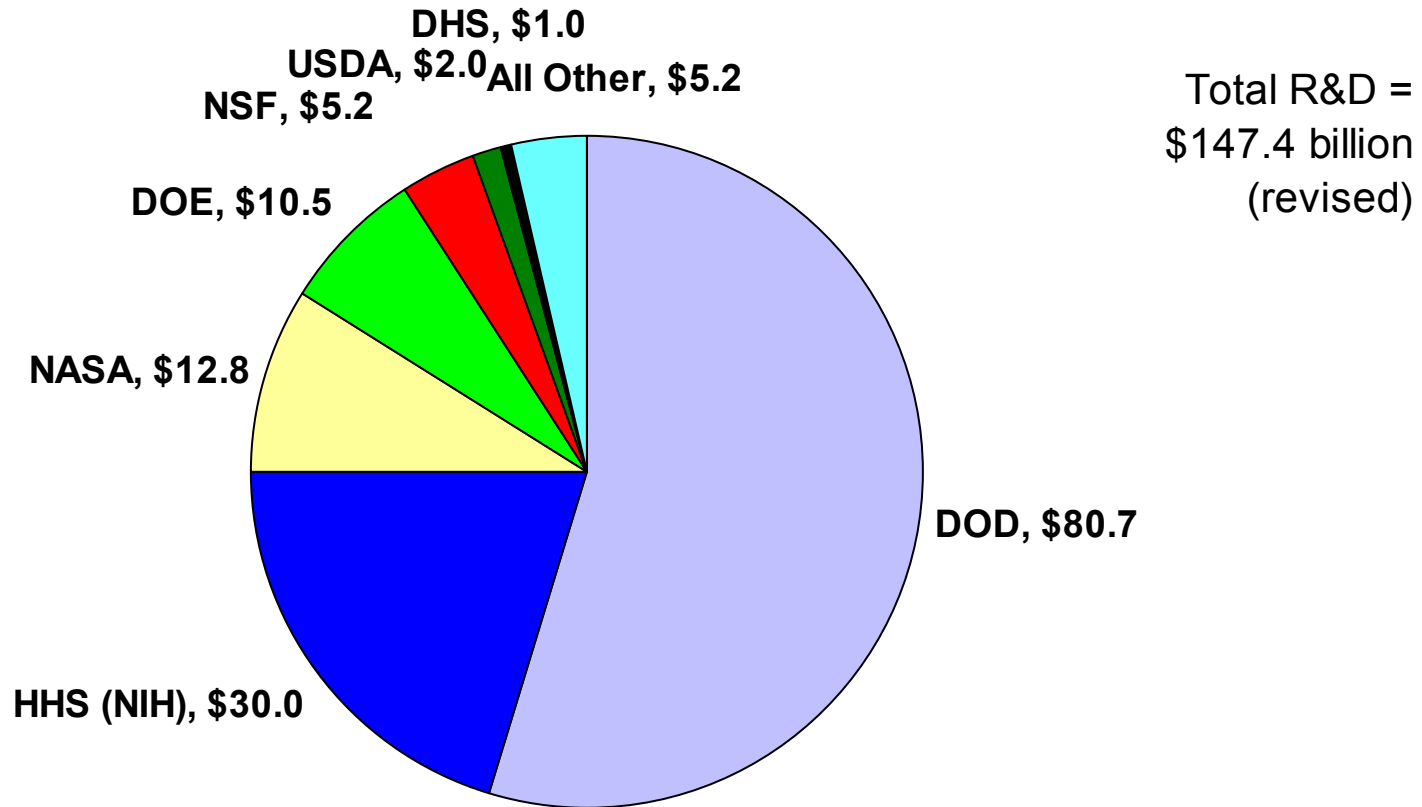
- President Bush announced the American Competitiveness (ACI) in his 2006 State of the Union address. There are several congressional responses, culminating in the America COMPETES Act of August 2007.
- For R&D investments, the theme is boosting federal support for basic research in the physical sciences, broadly defined but centered on physics, chemistry, computer science, engineering, mathematics, materials, nanotechnology, etc.
- The plan: Doubling the budgets of NSF, DOE Office of Science, and the NIST laboratories over 7 to 10 years.

THE 2009 BUDGET FOR R&D

- The 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



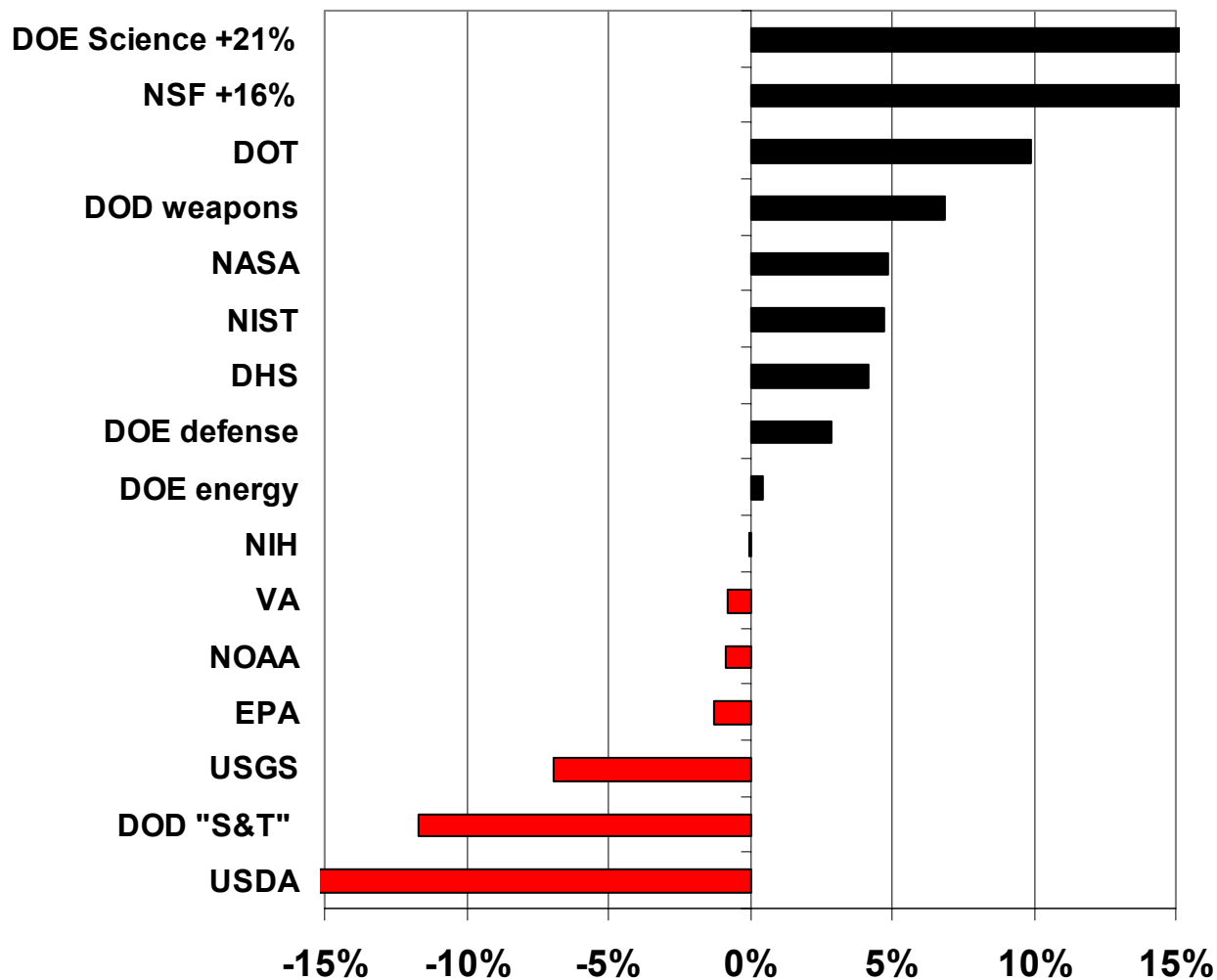
Source: AAAS, based on OMB R&D Budget Data and agency estimates for FY 2009.

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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.

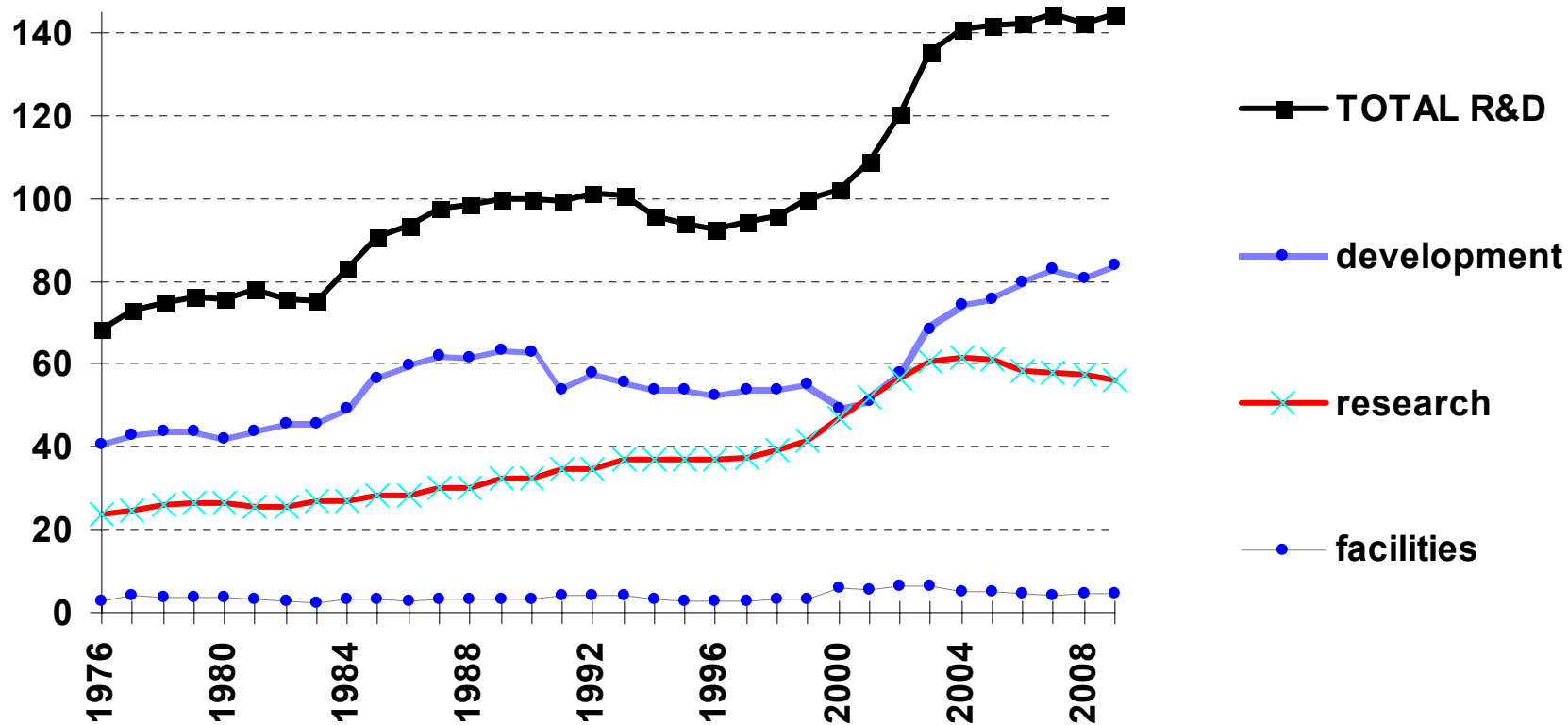
DOD weapons = DOD R&D in "6.4" and higher categories.

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Trends in Federal R&D, FY 1976-2009 *

in billions of constant FY 2008 dollars



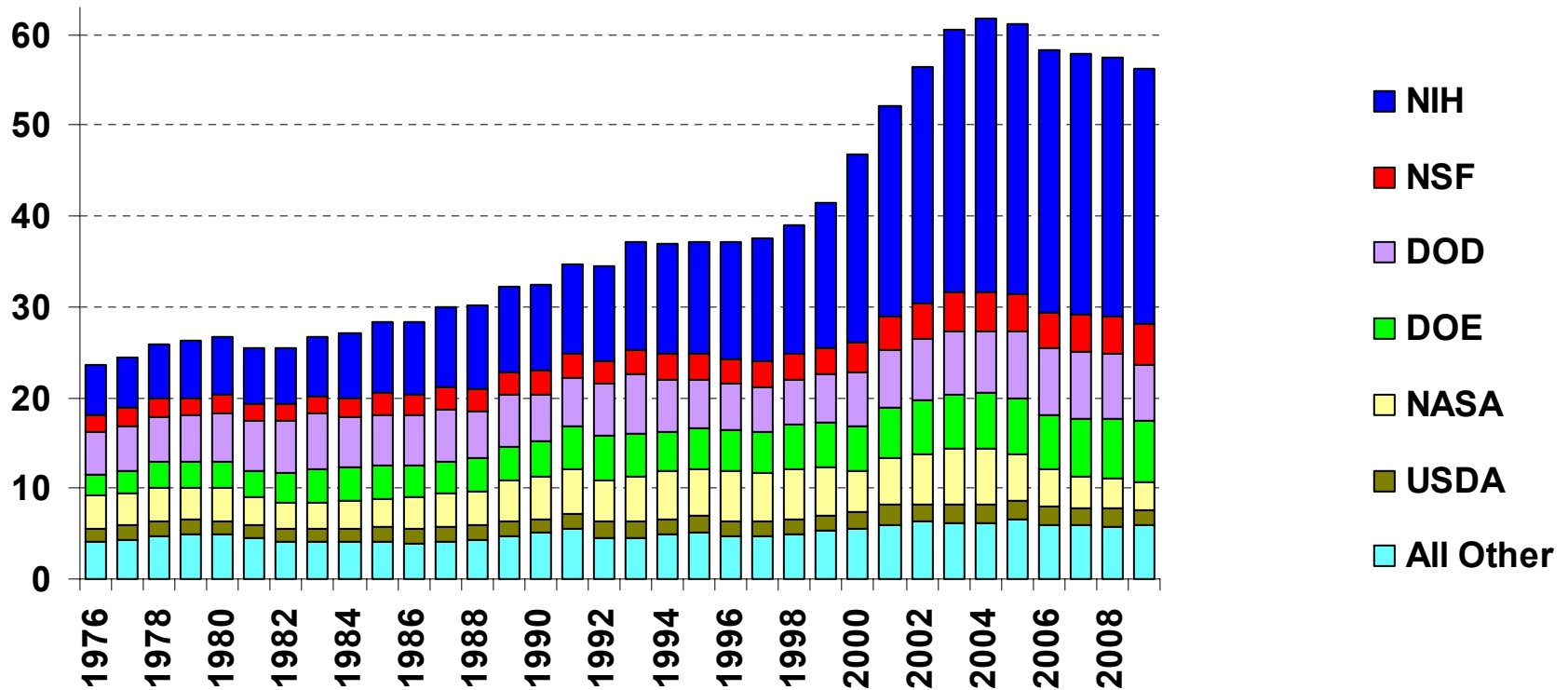
Source: AAAS analyses of R&D in annual AAAS R&D reports. * FY 2009 figures are latest AAAS estimates of FY 2009 request. R&D includes conduct of R&D and R&D facilities. Data to 1984 are obligations from the NSF Federal Funds survey. GDP figures are from OMB, Budget of the U.S. Government FY 2009.

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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.

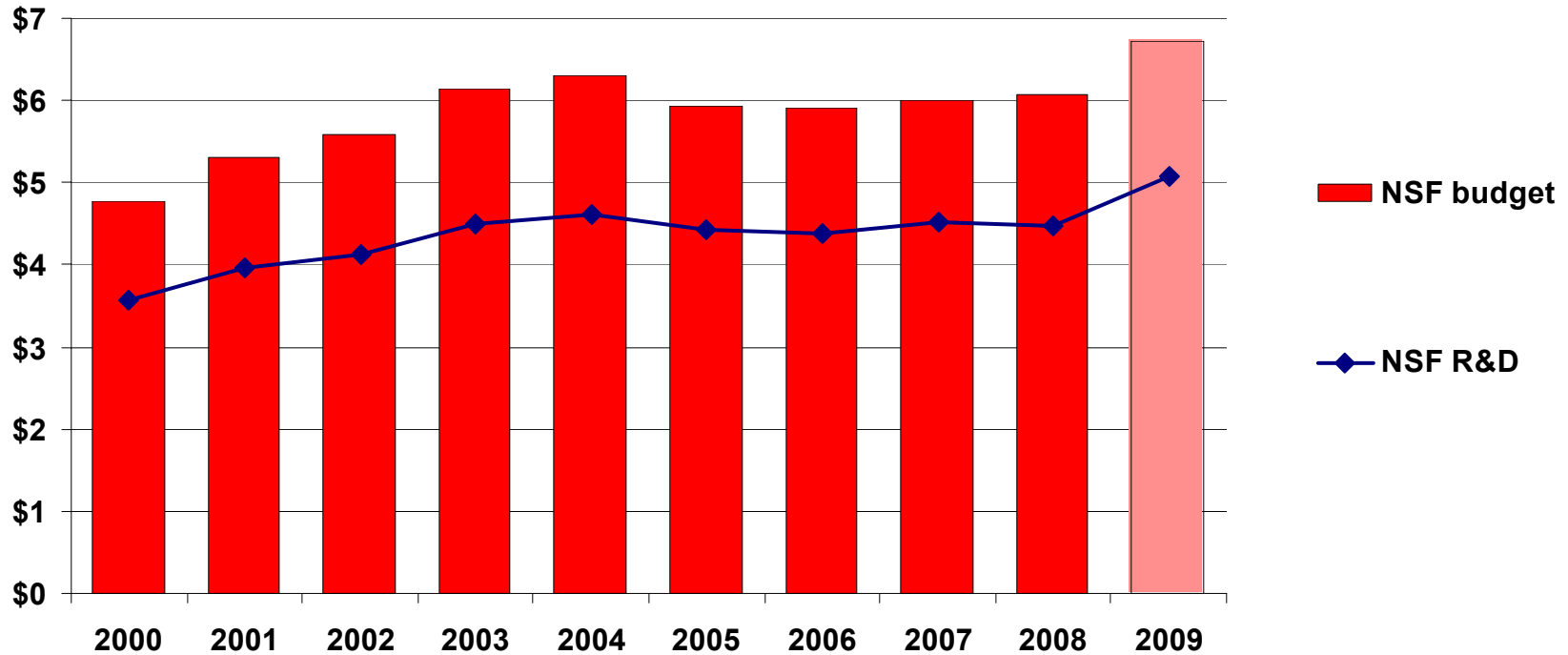
* FY 2009 figures are latest AAAS estimates of FY 2009 request. Research includes basic research and applied research. 1976-1994 figures are NSF data on obligations in the Federal Funds survey.

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National Science Foundation Budget, FY 2000-2009

(budget authority in billions of constant FY 2008 dollars)

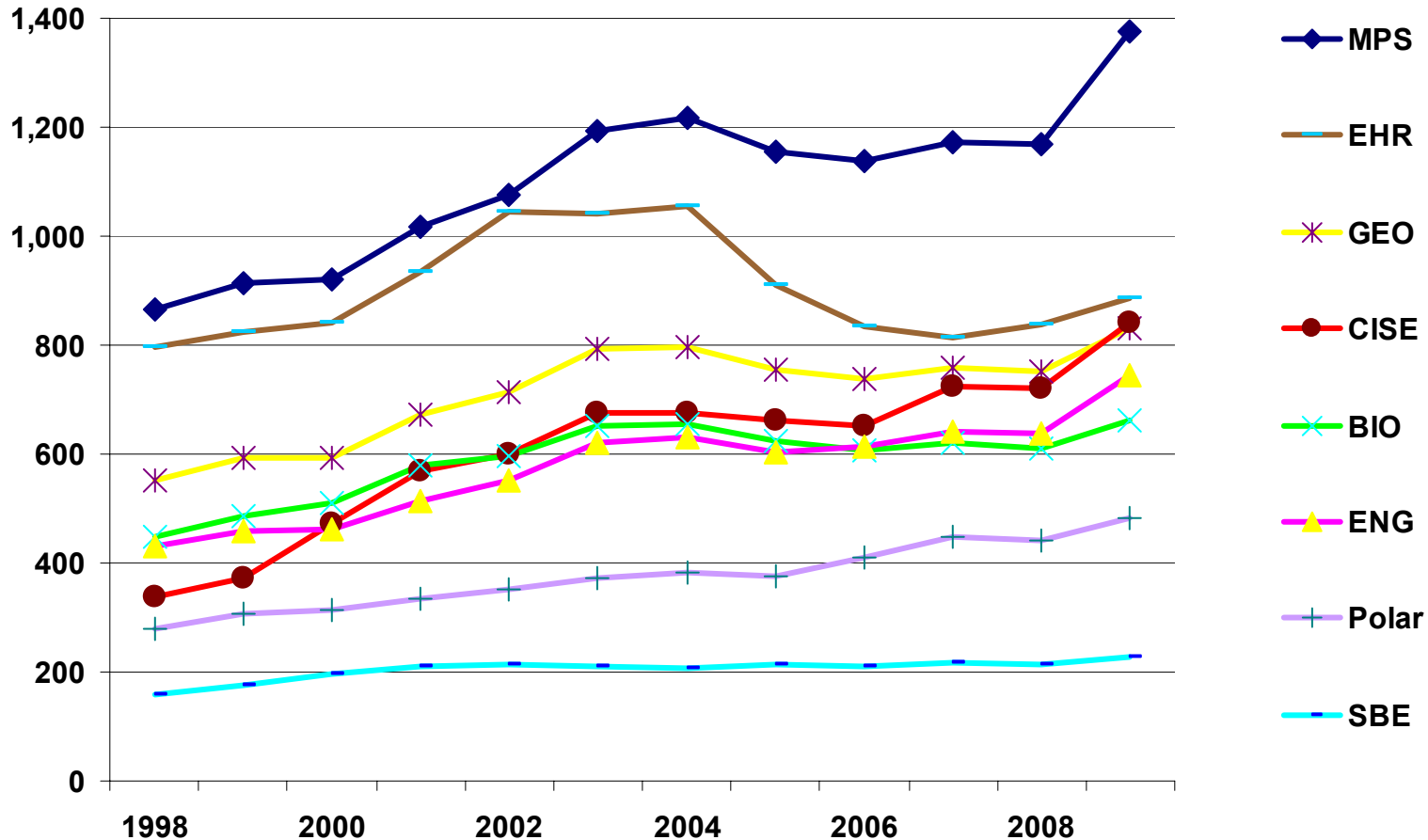


Source: National Science Foundation, and latest AAAS estimates of FY 2009 budget. FY 2009 is budget request.
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NSF Budget by Directorate, FY 1998-2009

(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.

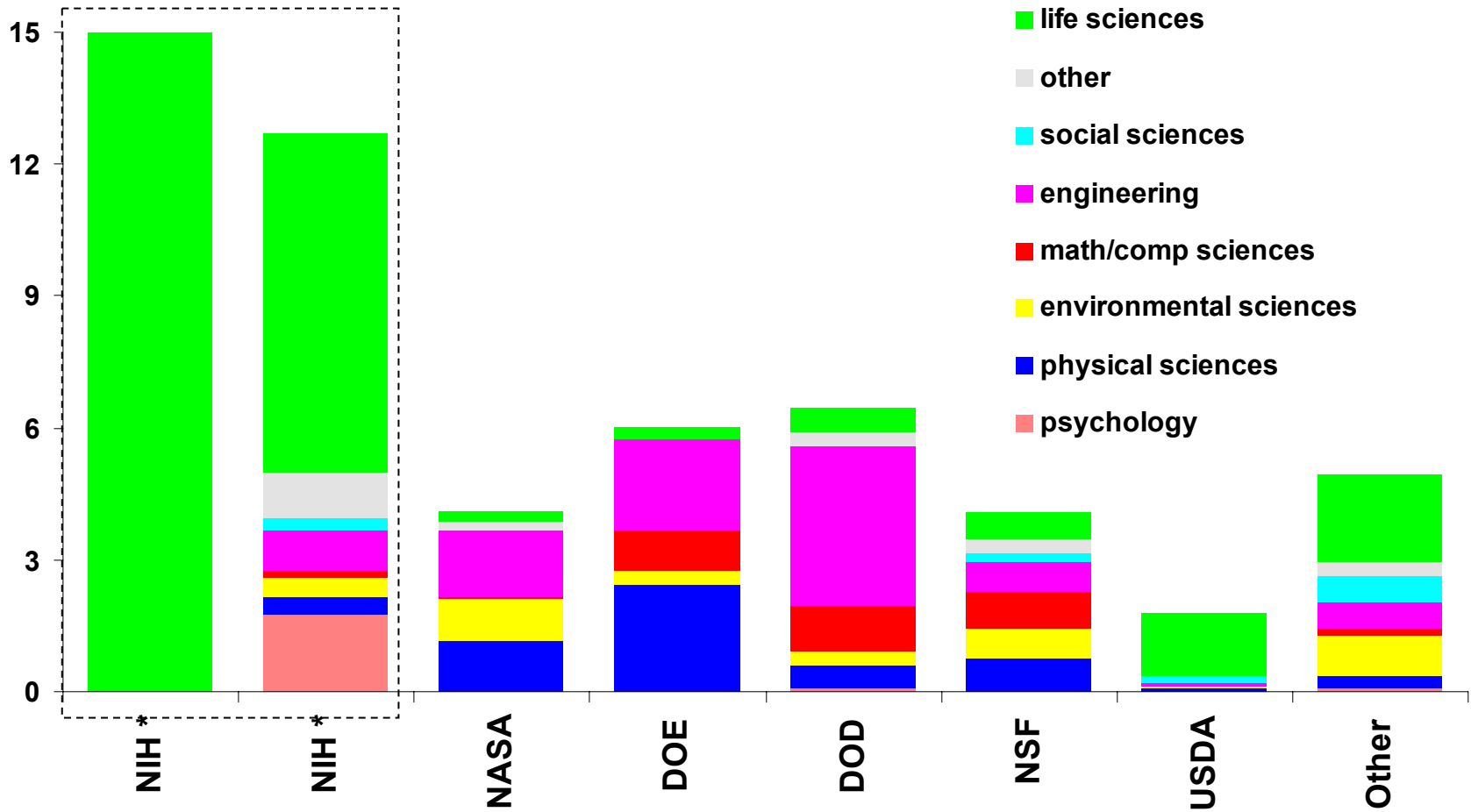
R&D and non-R&D components included in directorate budgets.

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Federal Research by Discipline at Selected Agencies, FY 2007 (preliminary obligations in billions of dollars)

* NIH research - \$27.7 billion.
Shown as two bars.



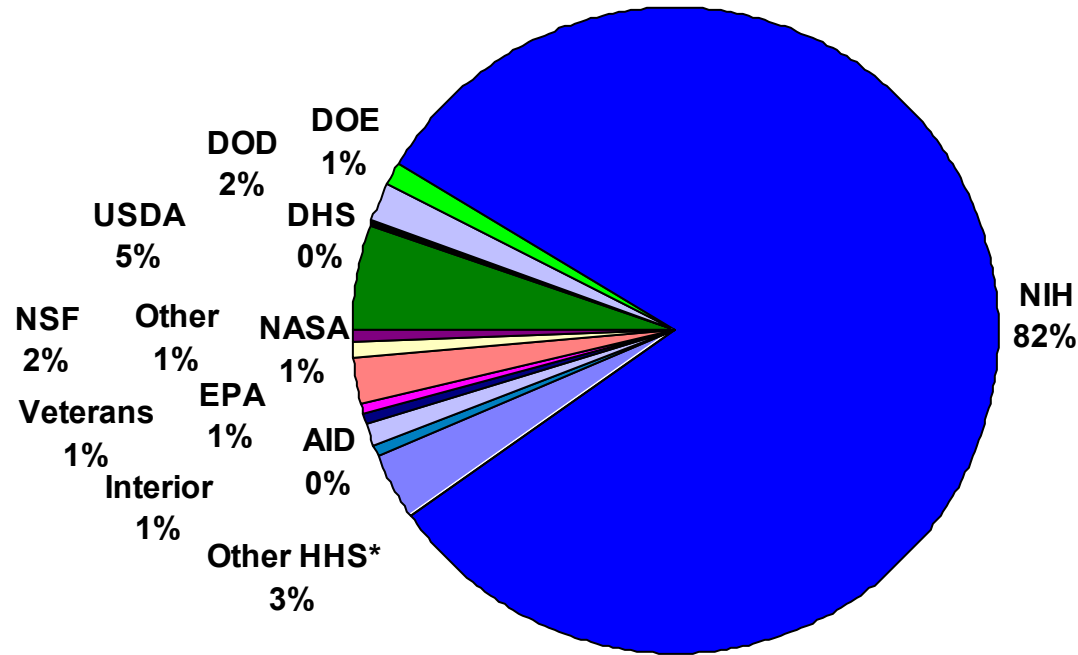
Source: National Science Foundation, *Federal Funds for Research and Development Fiscal Years 2005, 2006 and 2007, 2008*. Development and R&D facilities excluded. FY 2007 data are preliminary.
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Life Sciences Research in the FY 2007 Budget

(preliminary obligations)

Total Life Sciences
Research :
\$27.8 billion



* - Includes Centers for Disease Control, Food and Drug Administration, Agency for Healthcare Research and Quality

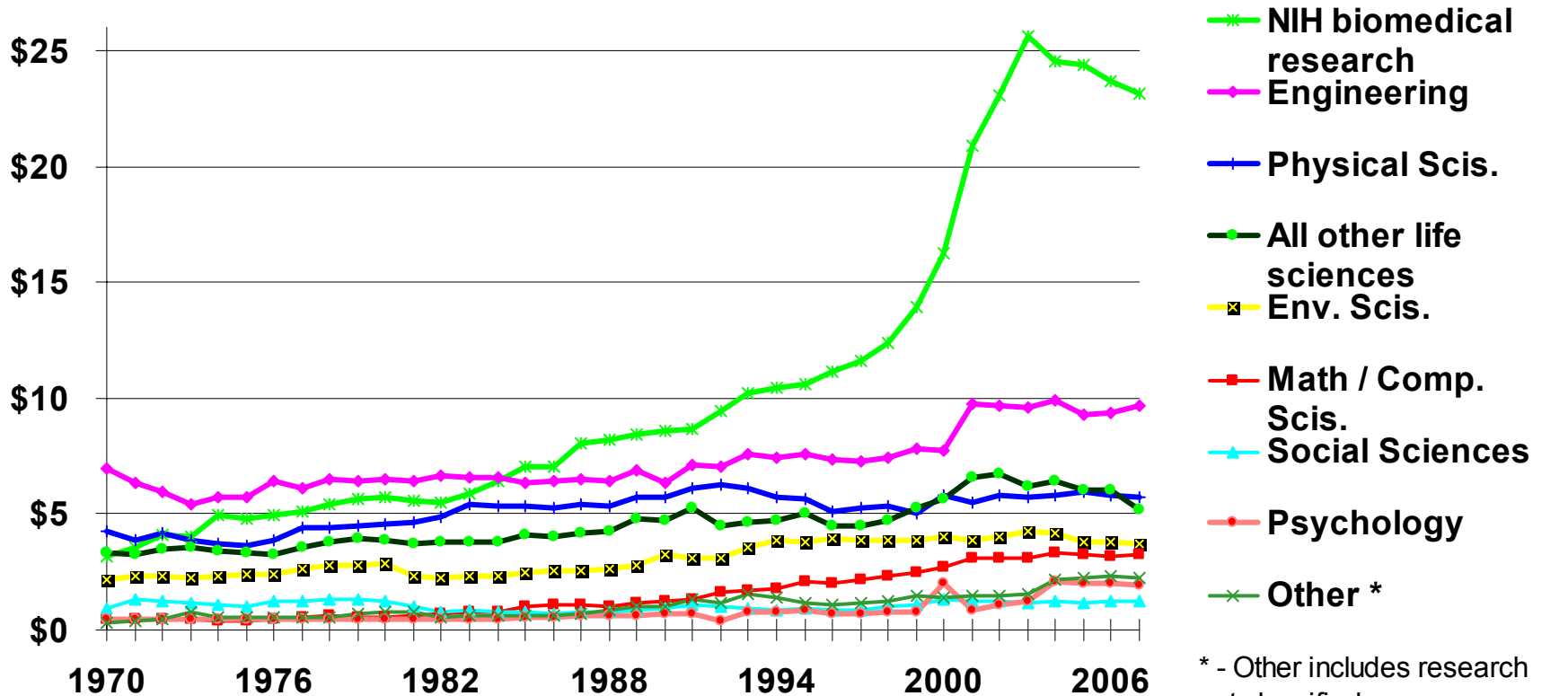
Source: National Science Foundation, *Federal Funds for Research and Development FY 2005, 2006 and 2007, 2008*. Data exclude development and R&D facilities.

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Trends in Federal Research by Discipline, FY 1970-2007

obligations in billions of constant FY 2008 dollars



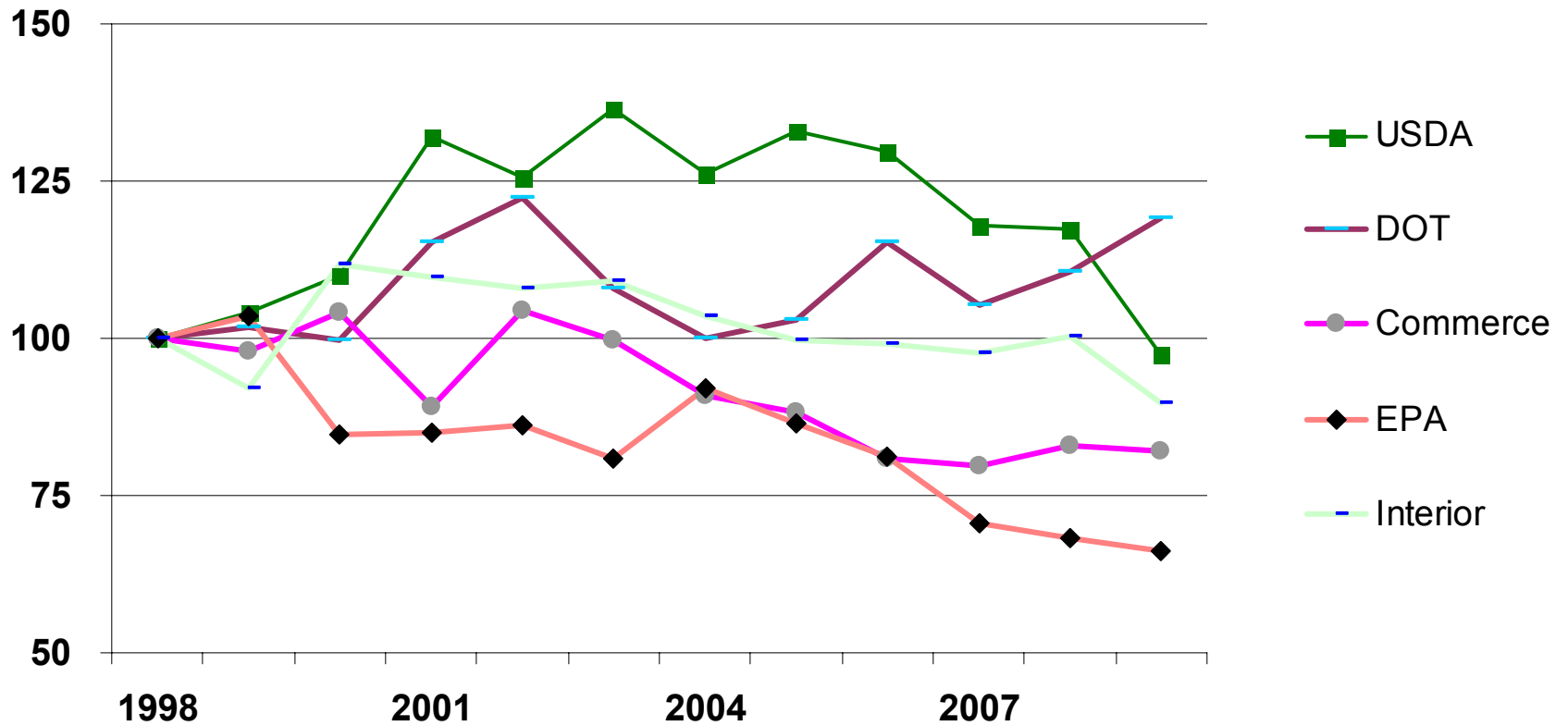
* - Other includes research not classified (includes basic research and applied research; excludes development and R&D facilities)

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, FY 1998-2009 *

selected agencies in constant dollars, FY 1998=100



Source: AAAS analyses of R&D in *AAAS Reports VIII- XXXIII*

* FY 2009 figures are latest AAAS estimates of Fthe Y 2009 request.

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

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WHAT'S NEXT?

- Congress is considering 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. NSF would not do well, but other life sciences agencies such as USDA, USGS, and EPA might.
- 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

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

