

Federal R&D Funding in the 2008 Budget

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for the American Institute of Physics

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.

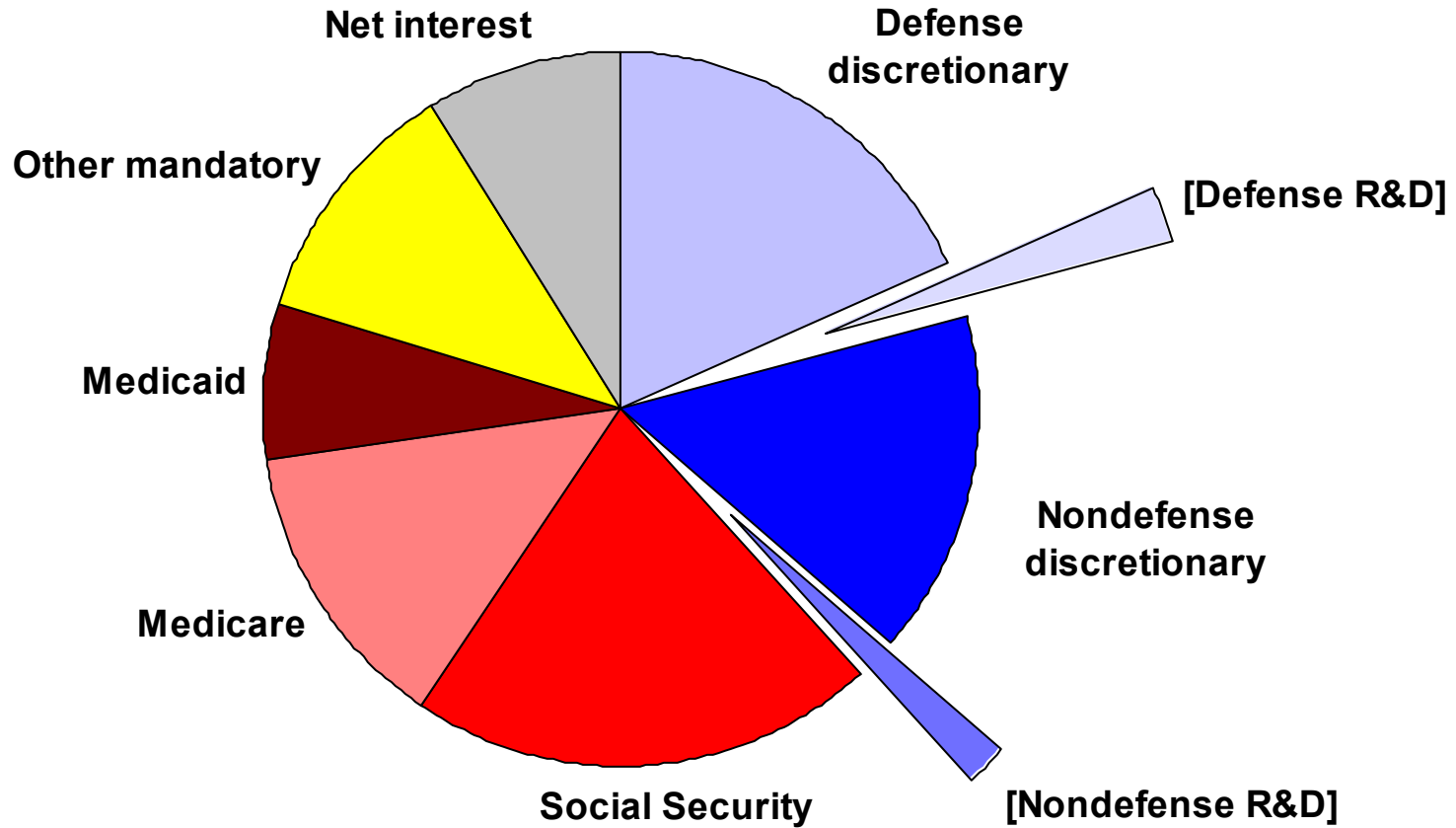


THIS WEEK IN WASHINGTON...

- It's budget time on Capitol Hill. Between early February (President's proposed budget) and October 1 (start of fiscal 2008) Congress works on the federal budget.
- This week, Congress is working on:
 - A \$120+ billion 2007 supplemental for war costs. Senate approved today, House approved last week.
 - A 2008 budget resolution (congressional big-picture budget plan). Senate approved last week, House approved today.
 - Learning about the 2008 budget's details, and getting public input to inform appropriations later this year.

Composition of the Proposed FY 2008 Budget

Total Outlays = \$2.9 trillion



Note: Projected Unified deficit is \$239 billion.

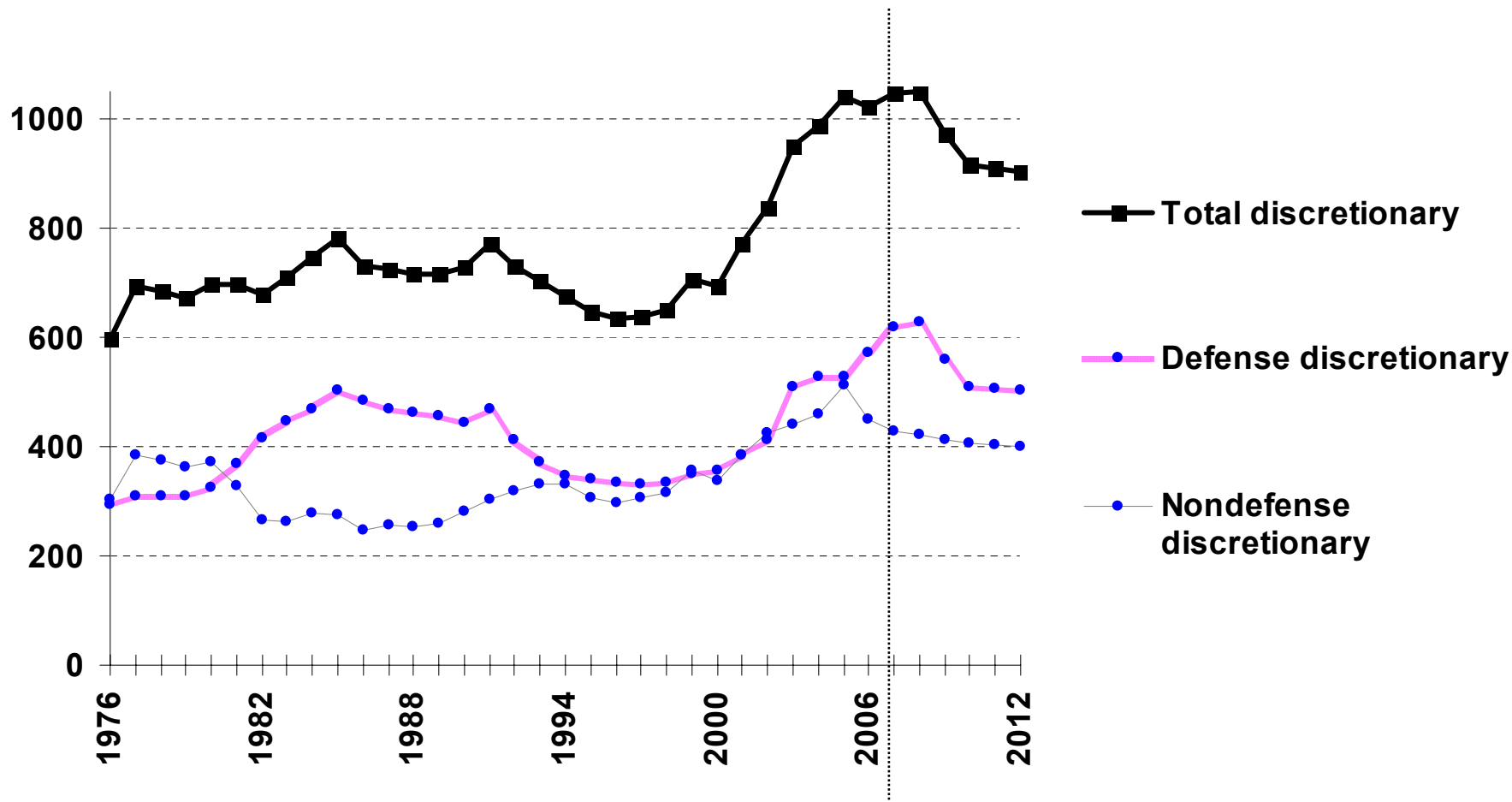
Figures exclude many Iraq and Afghanistan military costs.

Source: AAAS, based on *Budget of the United States Government FY 2008*.

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Trends in Discretionary Spending, FY 1976-2012

in billions of constant FY 2007 dollars



Data in fiscal years. Source: *Budget of the United States Government, FY 2008*. FY 2007 data are estimates. FY 2008-2012 data are budget projections. FY 2009 - 2012 figures exclude Iraq and Afghanistan military costs.

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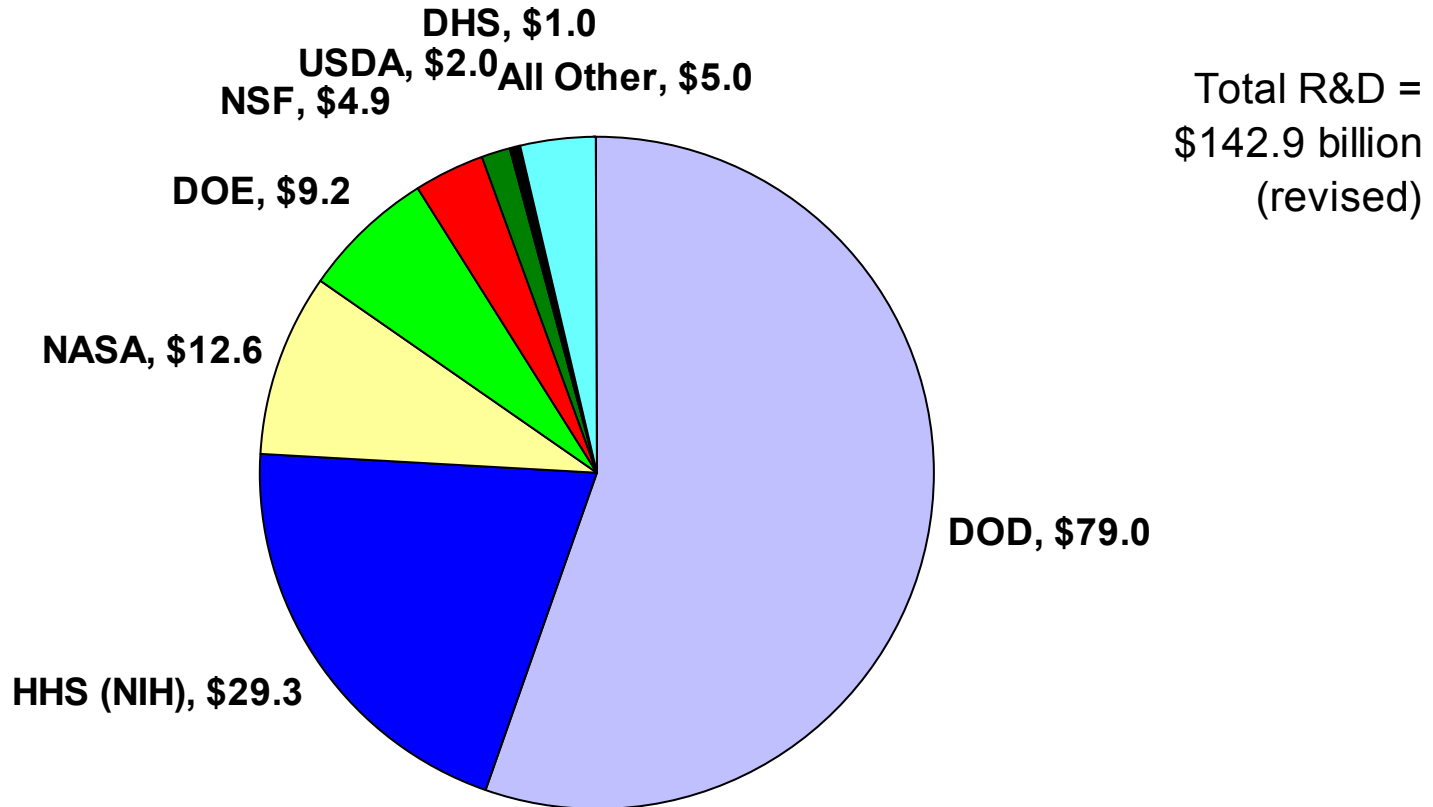


THE 2008 BUDGET: OLD THEMES

- The President's plan is to balance the budget by 2012, primarily by cutting discretionary spending (appropriations).
- R&D: The American Competitiveness Initiative (ACI) keeps going for a 2nd year in FY 2008.
- Again, large increases for DOD weapons and NASA spacecraft development.
- Flat or declining funding for most other research programs within a shrinking domestic budget.

Total R&D by Agency: FY 2008 Proposed

Budget Authority in billions of dollars



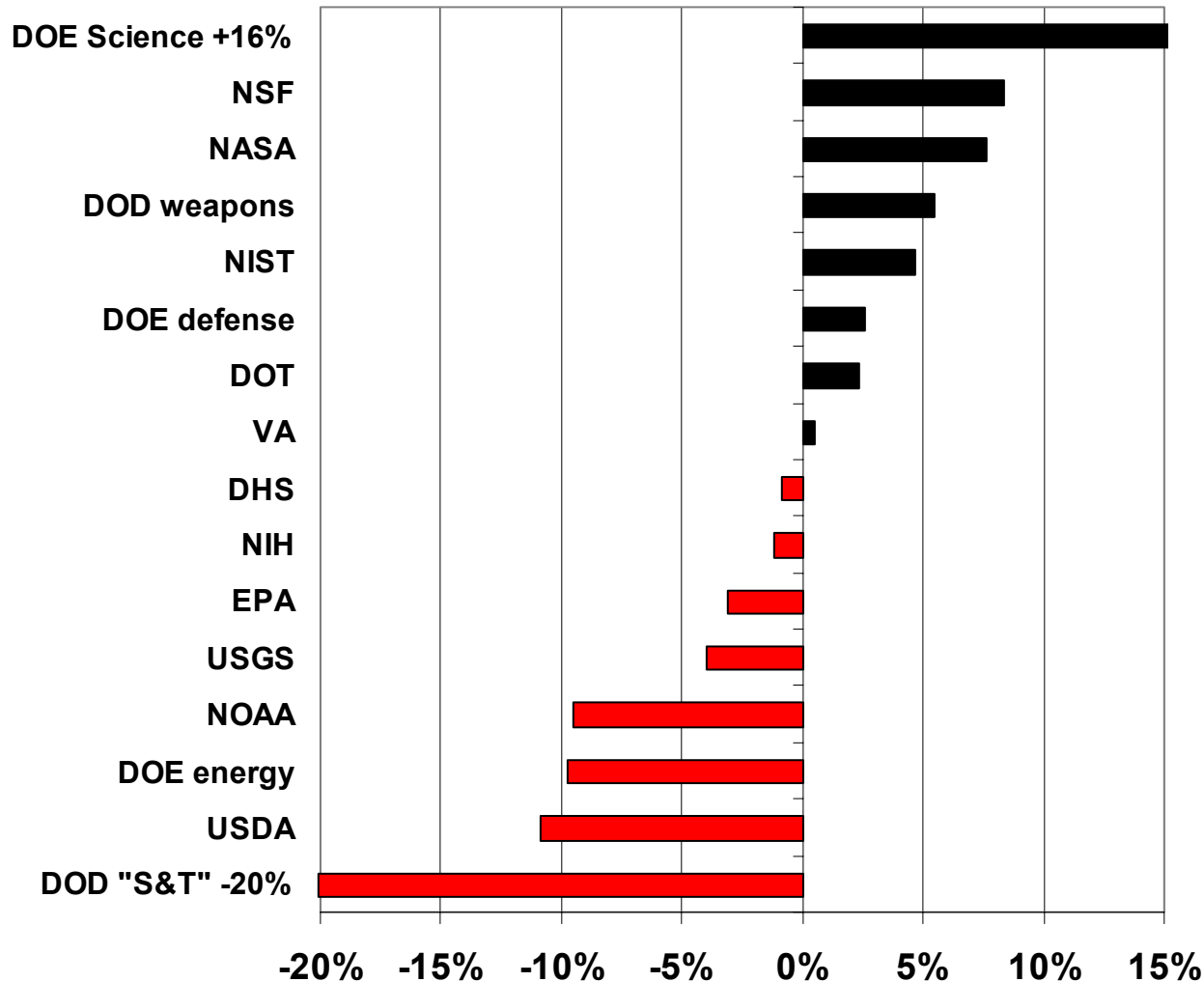
Source: AAAS, based on OMB R&D Budget Data and agency estimates for FY 2008.

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FY 2008 R&D Request (revised)

Percent Change from FY 2007



Source: AAAS, based on OMB R&D data and agency estimates for FY 2008.

DOD "S&T" = DOD R&D in "6.1" through "6.3" categories plus medical research.

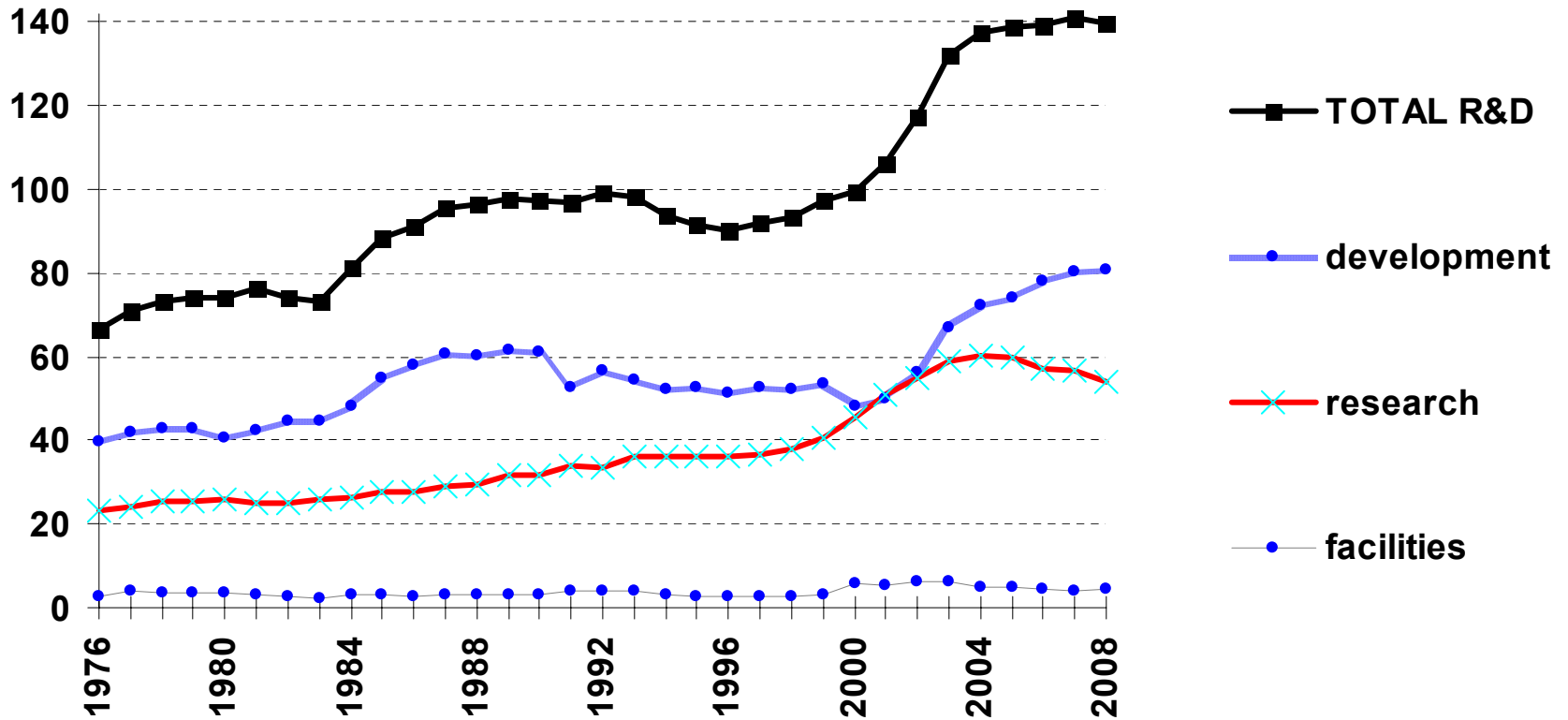
DOD weapons = DOD R&D in "6.4" and higher categories. FY 2007 and 2008 figures include requested supplementals. FY 2007 = latest estimates of final appropriations.

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Trends in Federal R&D, FY 1976-2008 *

in billions of constant FY 2007 dollars



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

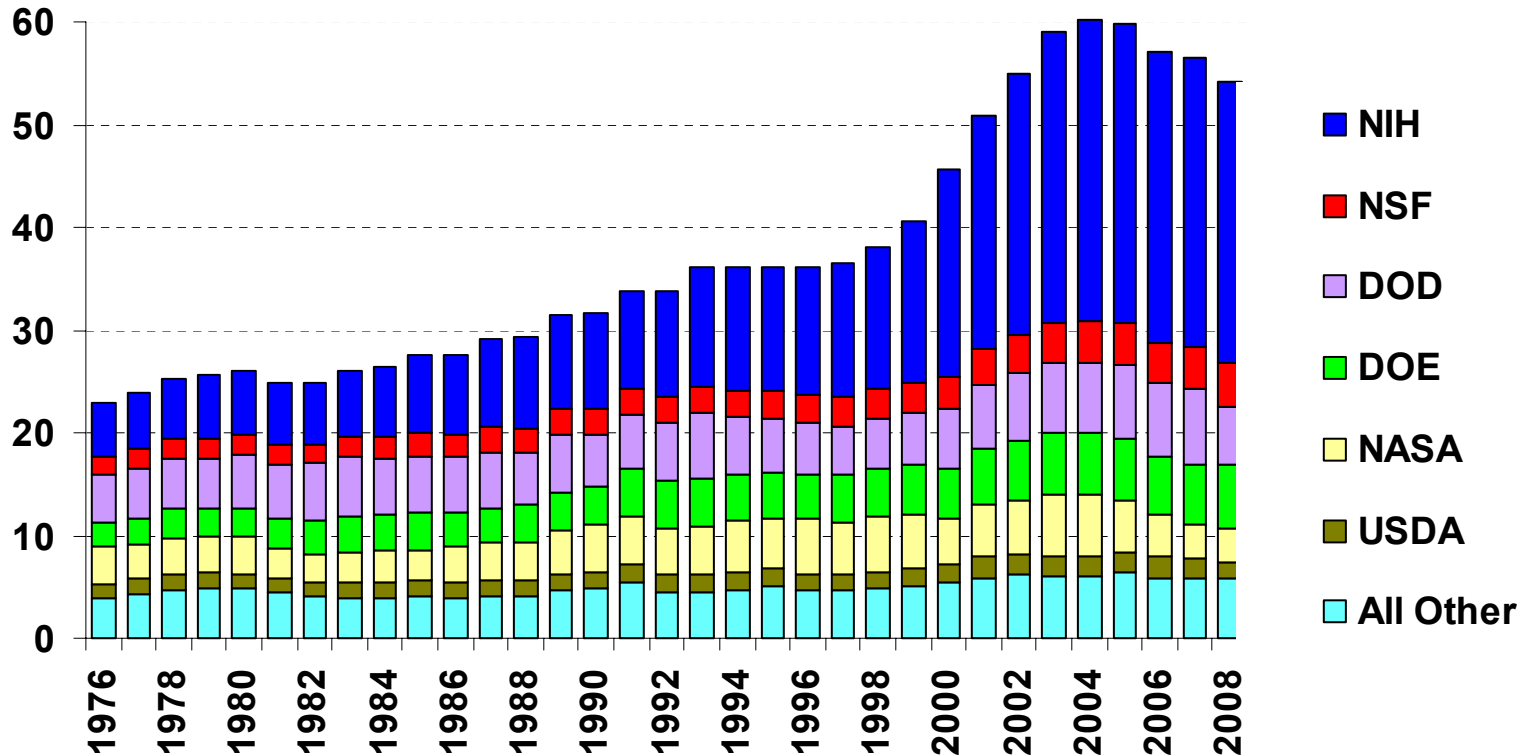
* FY 2008 figures are President's request. FY 2007 figures are latest estimates of appropriations. R&D includes conduct of R&D and R&D facilities. Data to 1984 are obligations from the NSF Federal Funds survey. Constant-dollar conversions use GDP deflators from OMB.

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Trends in Research by Agency, FY 1976-2008 *

in billions of constant FY 2007 dollars

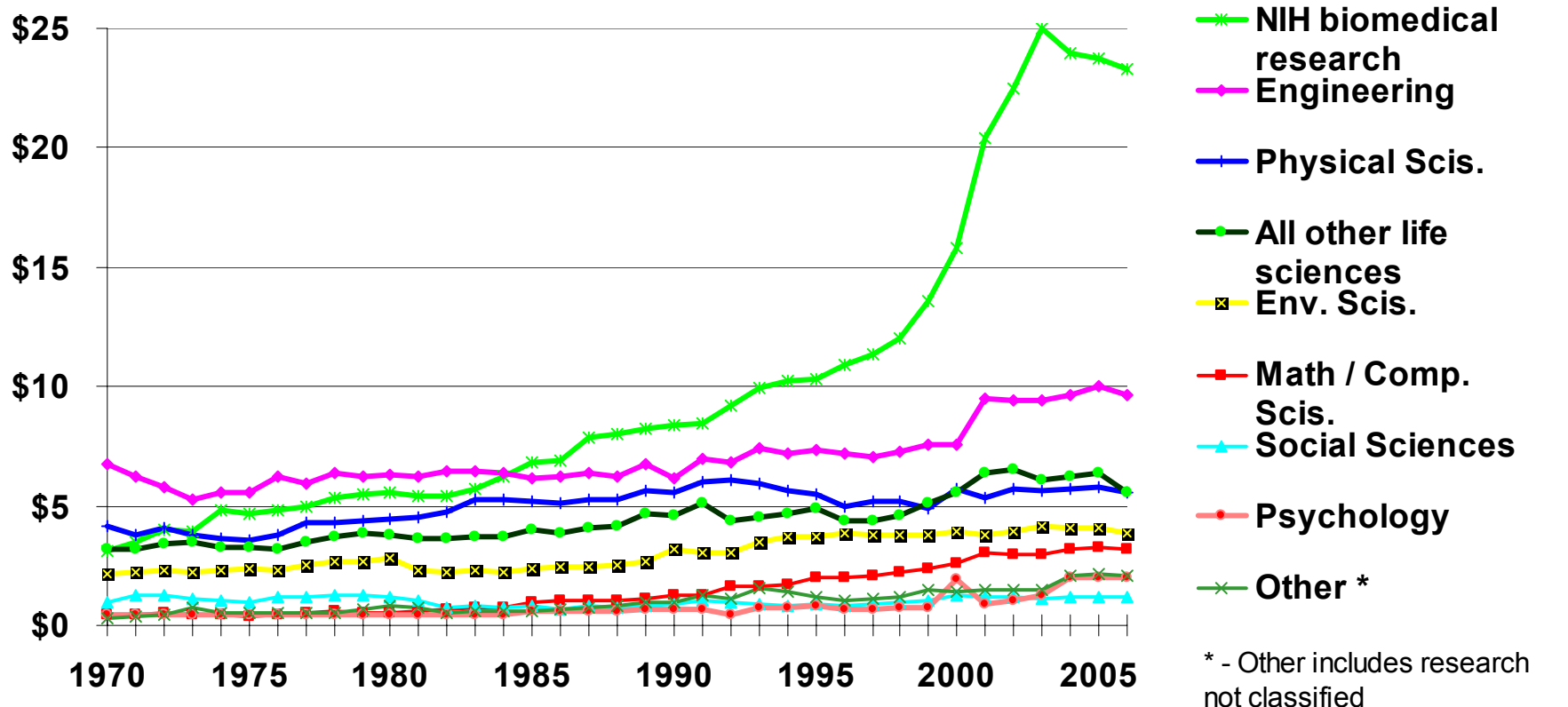


Source: AAAS analyses of R&D in annual AAAS R&D reports.
 * FY 2008 figures are President's request. 2007 figures are latest AAAS estimates of research in 2007 appropriations. Research includes basic research and applied research. 1976-1994 figures are NSF data on obligations in the Federal Funds survey. MARCH '07 REVISED © 2007 AAAS



Trends in Federal Research by Discipline, FY 1970-2006

obligations in billions of constant FY 2007 dollars

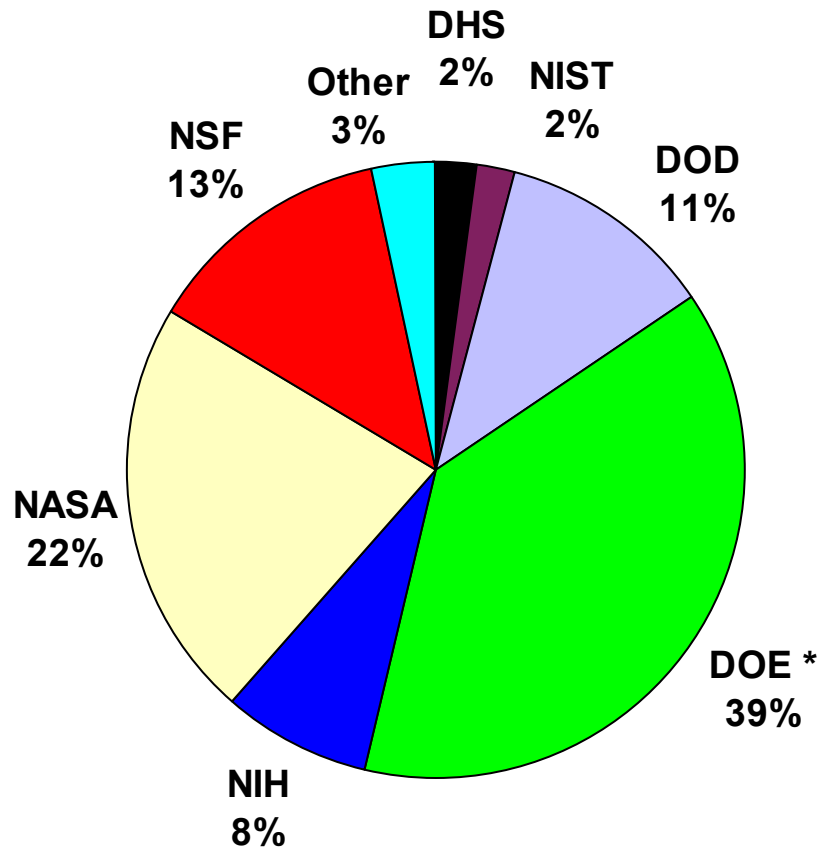


* - Other includes research not classified (includes basic research and applied research; excludes development and R&D facilities)

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 2004, 2005, 2006, 2006*. FY 2005 and 2006 data are preliminary. Constant-dollar conversions based on OMB's GDP deflators. FEB. '07 © 2007 AAAS



Physical Sciences Research in the FY 2006 Budget (preliminary obligations)



Total Physical Sciences Research: \$5.4 billion (includes basic research and applied research)

Physical Sciences include astronomy, chemistry, physics, and other physical sciences

* DOE Office of Science = 28% of total

National Nuclear Security Administration = 9% of total

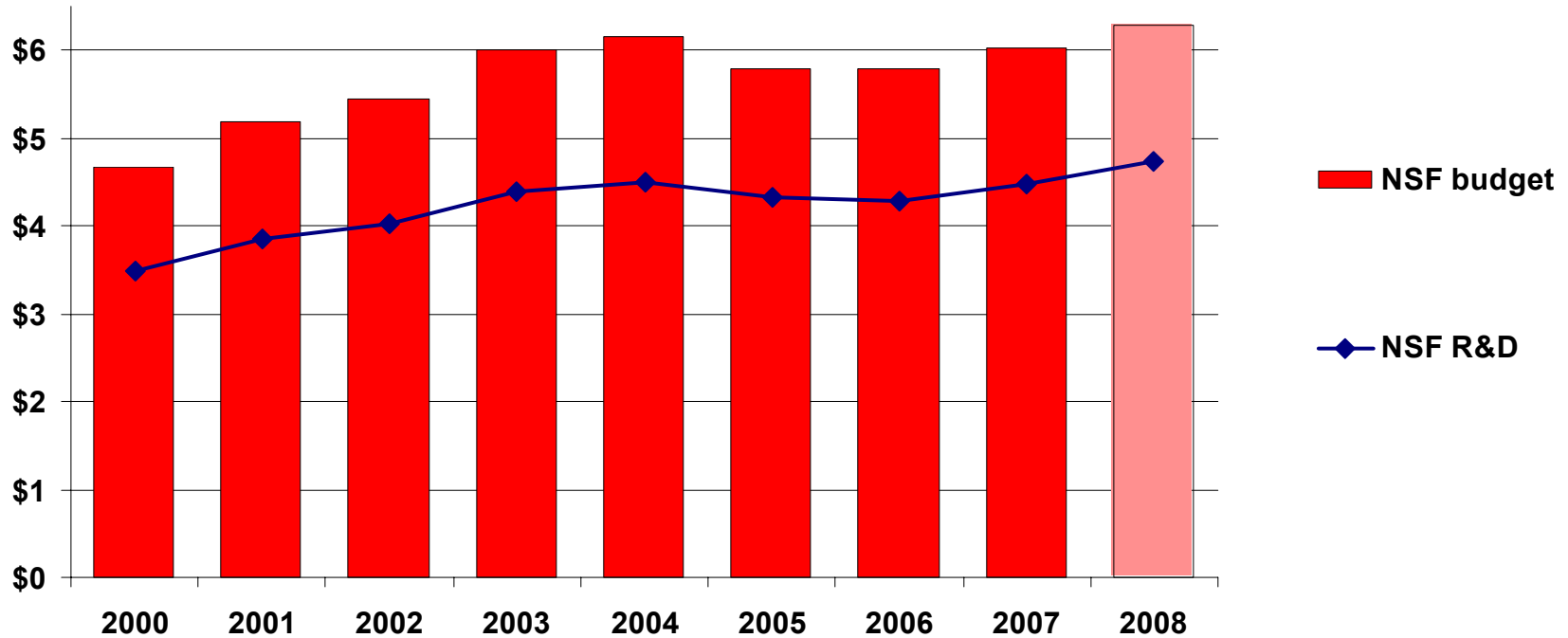
Source: National Science Foundation, *Federal Funds for Research and Development FY 2004, 2005 and 2006, 2006*. Data exclude development and R&D facilities.

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National Science Foundation Budget, FY 2000-2008

(budget authority in billions of constant FY 2007 dollars)

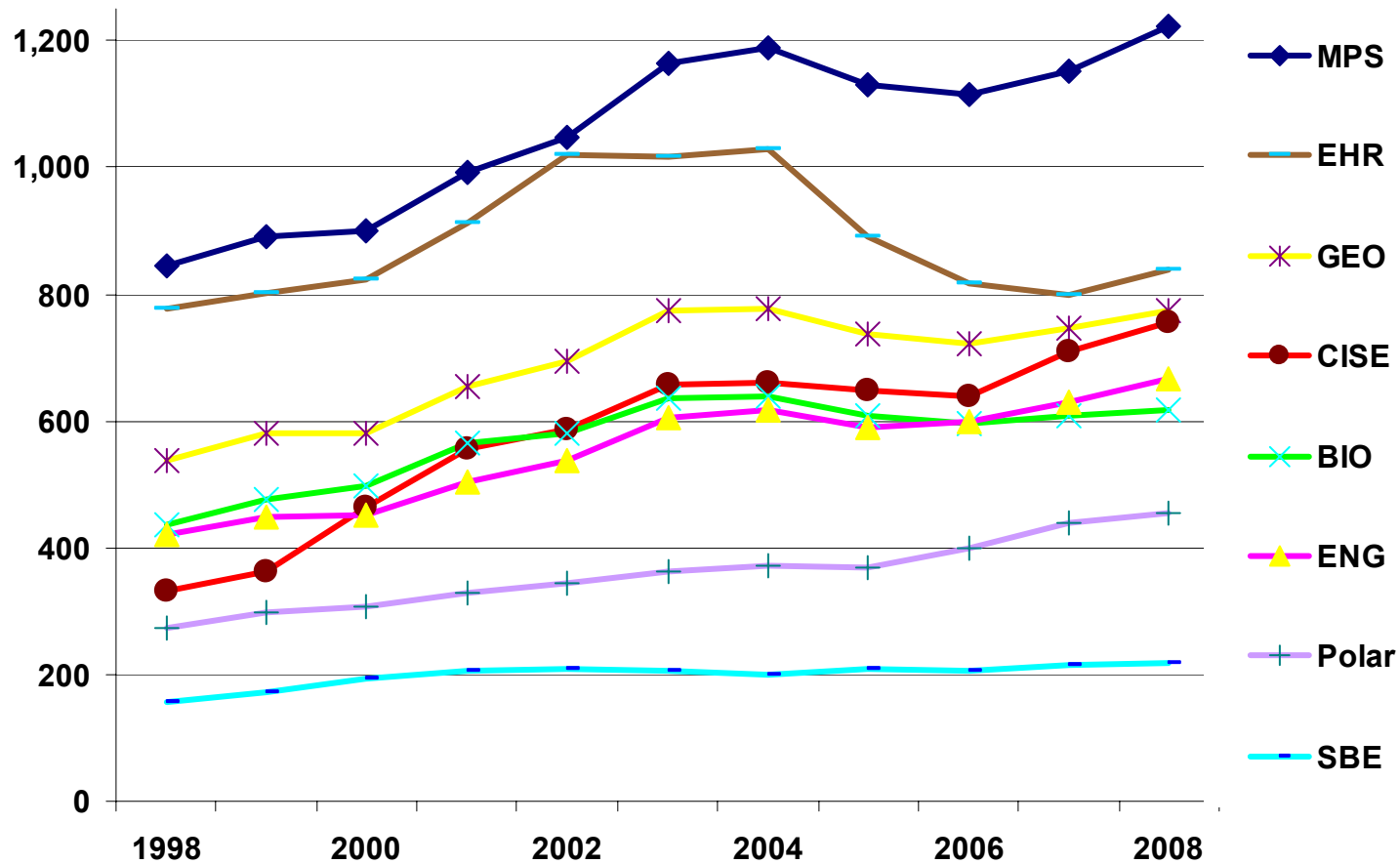


Source: National Science Foundation, and latest AAAS estimates of FY 2008 budget. FY 2008 is budget request; FY 2007 is estimate of final appropriation. FEB. '07 REVISED © 2007 AAAS



NSF Budget by Directorate, FY 1998-2008

(budget authority in millions of constant FY 2007 dollars)

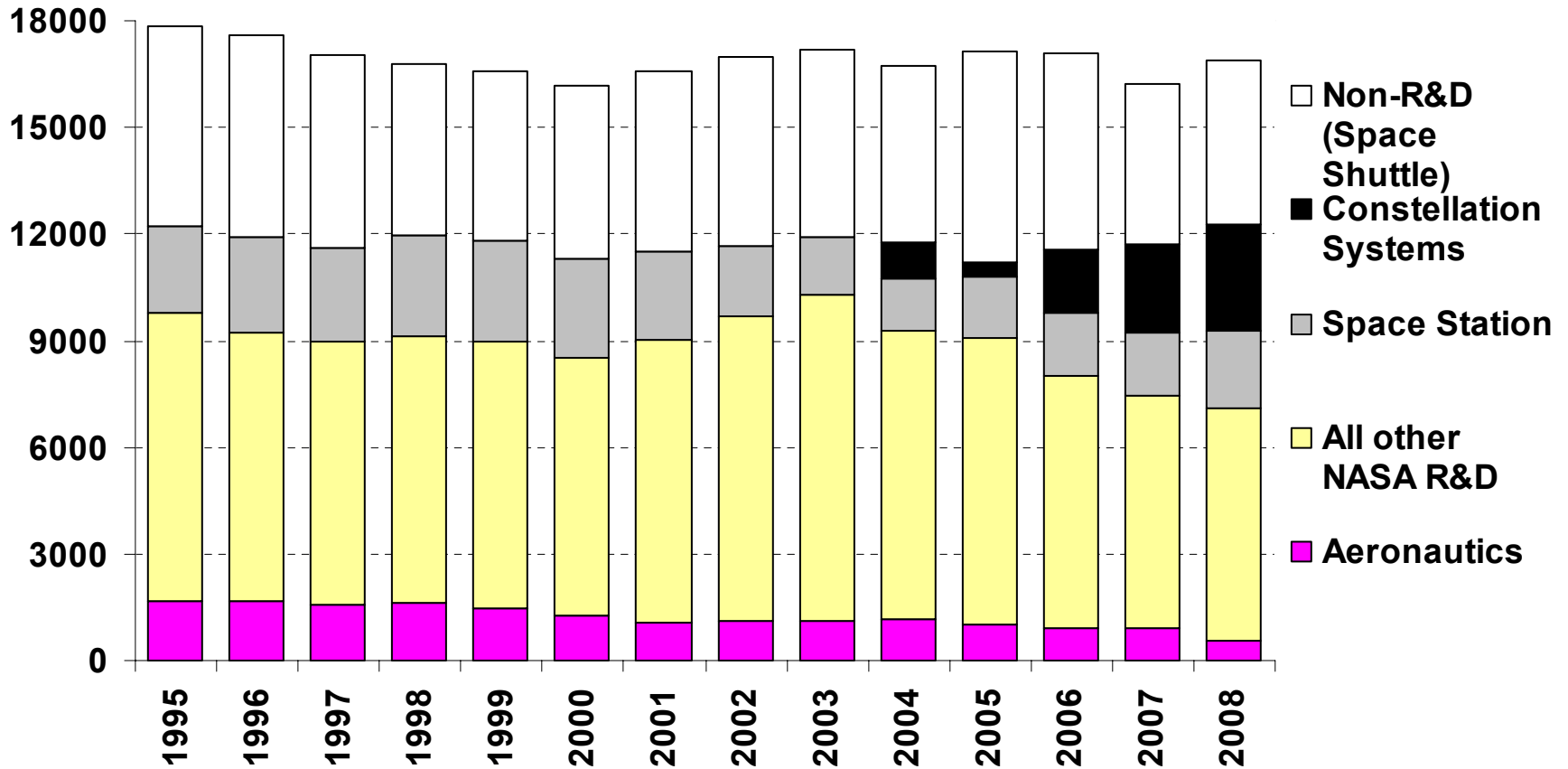


Source: National Science Foundation data. FY 2008 figures are President's request; FY 2007 figures are estimates of final FY 2007 appropriations. CISE includes new Office of Cyberinfrastructure. R&D and non-R&D components included in directorate budgets. FEB, '07 REVISED © 2007 AAAS



Trends in NASA R&D, FY 1995-2008 *

in millions of constant FY 2007 dollars

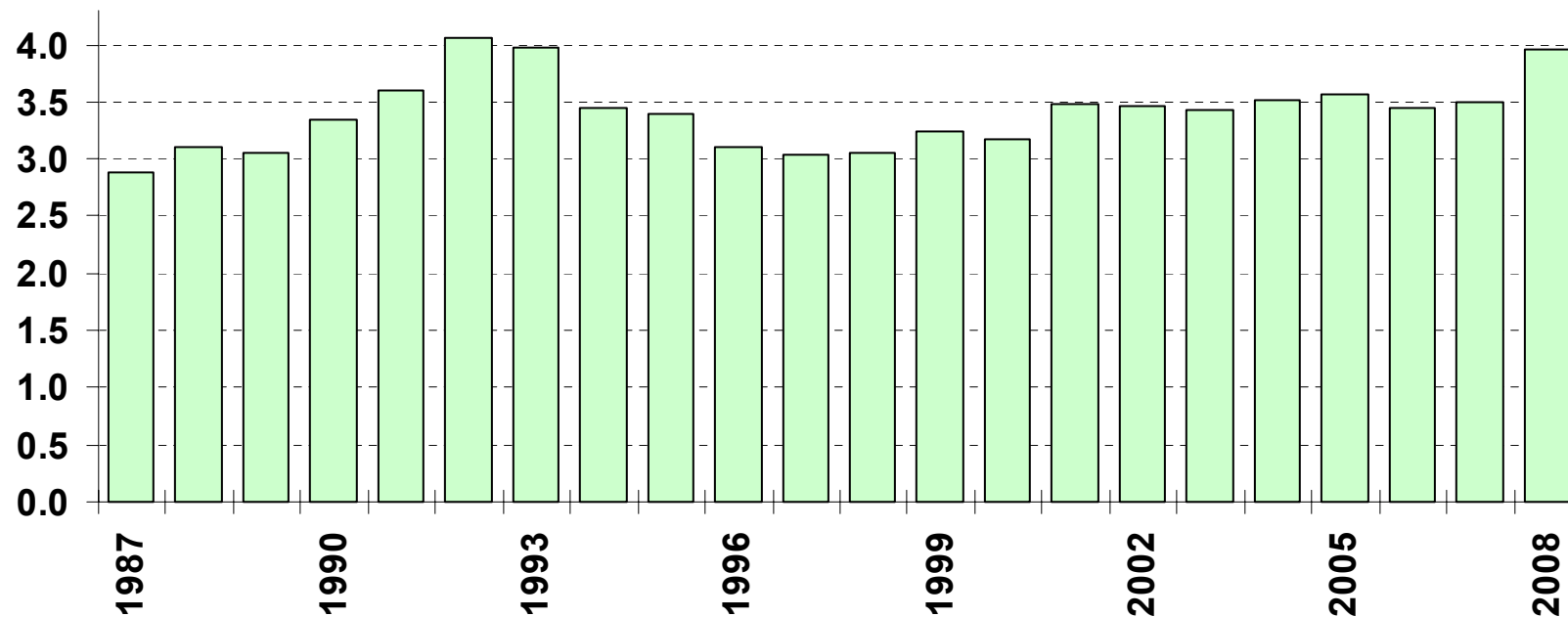


Source: OMB, Budget of the U.S. Government Historical data. * FY 2008 figures are President's request. FY 2007 figures are latest estimates of 2007 appropriations. R&D includes conduct of R&D and R&D facilities. FEB. '07 PRELIMINARY © 2007 AAAS



Trends in DOE Office of Science R&D, FY 1987-2008 *

in billions of constant FY 2007 dollars

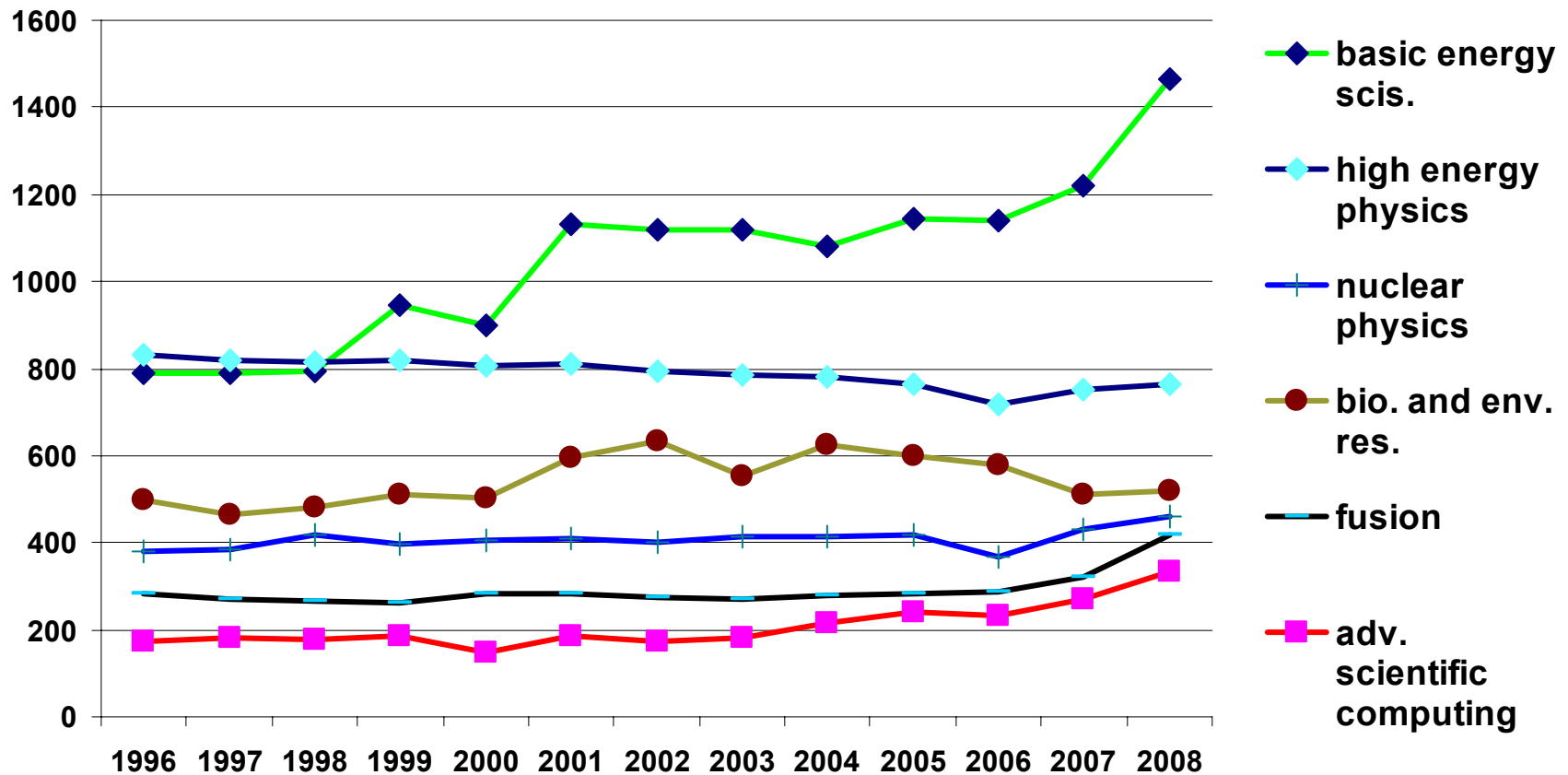


Source: AAAS analyses of R&D in AAAS Reports VIII- XXXII. * -
FY 2008 figures are President's request. 2007 figures are latest
AAAS estimates of R&D in 2007 appropriations.
R&D includes conduct of R&D and R&D facilities.
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Trends in DOE Office of Science Programs, FY 1996-2008

(budget authority in millions of constant FY 2007 dollars)



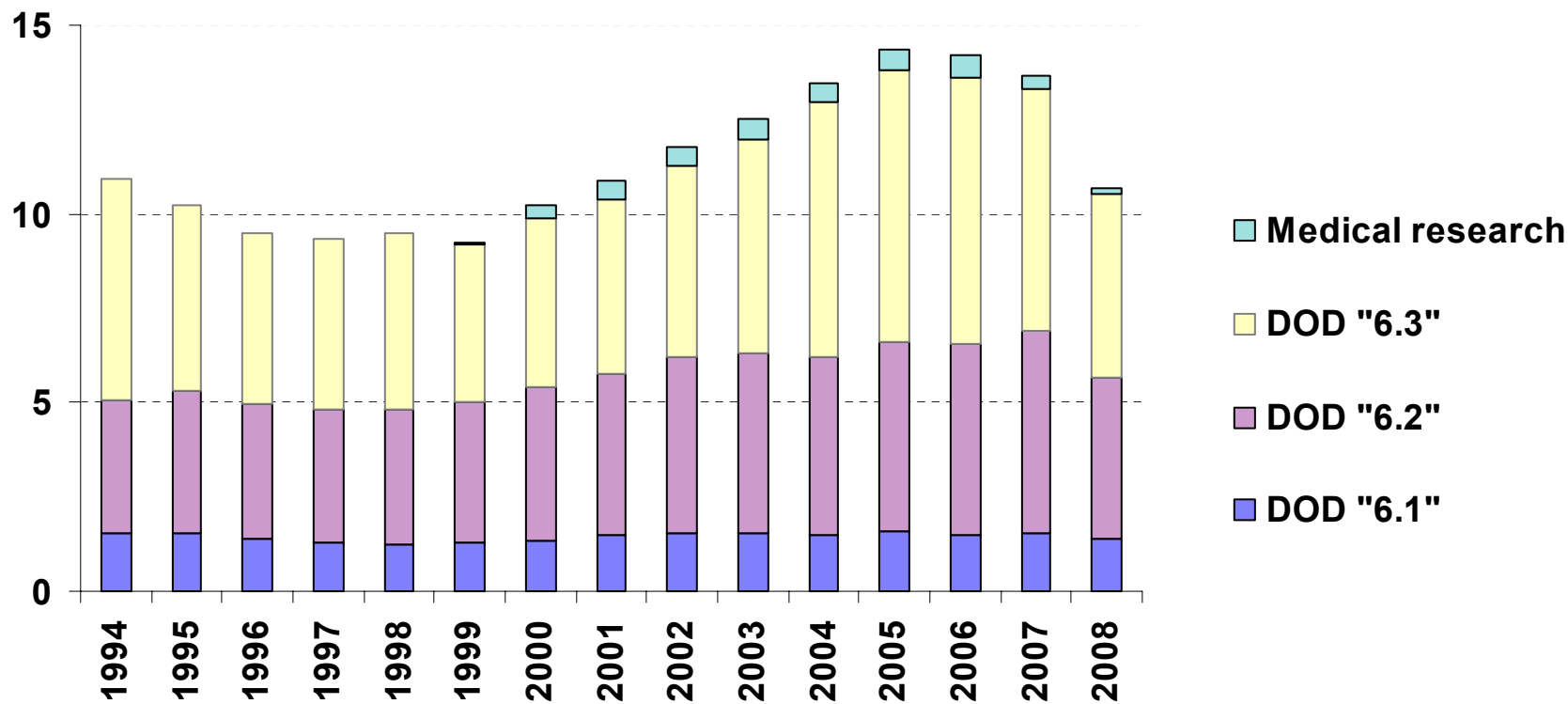
Source: AAAS Reports on R&D, various years, and DOE historical budget documents. Adjusted for inflation using OMB's GDP deflators. BES includes Spallation Neutron Source funds. BER includes earmarks for most years. FY 2008 figures are President's request; FY 2007 figures are latest estimates of FY 2007 appropriations.

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Trends in DOD "S&T", FY 1994-2008 *

in billions of constant FY 2007 dollars



Source: AAAS analyses of R&D in AAAS Reports VIII- XXXII.

* - FY 2008 figures are President's request.

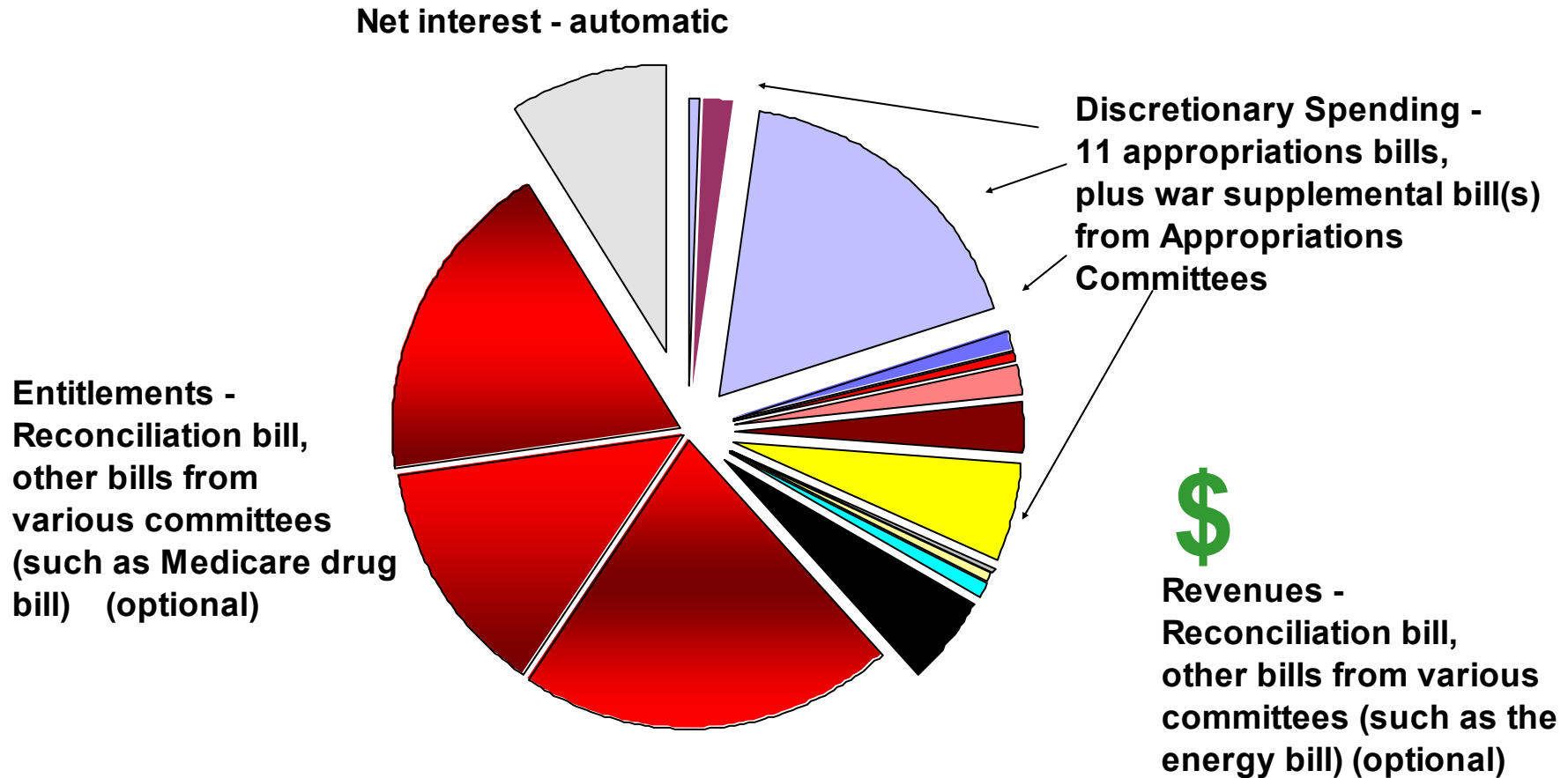
Medical research appropriated outside RDT&E; appropriated in "6.2" accounts before 1999.

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How the Budget Becomes Law

FY 2008 Proposal = \$2.9 Trillion

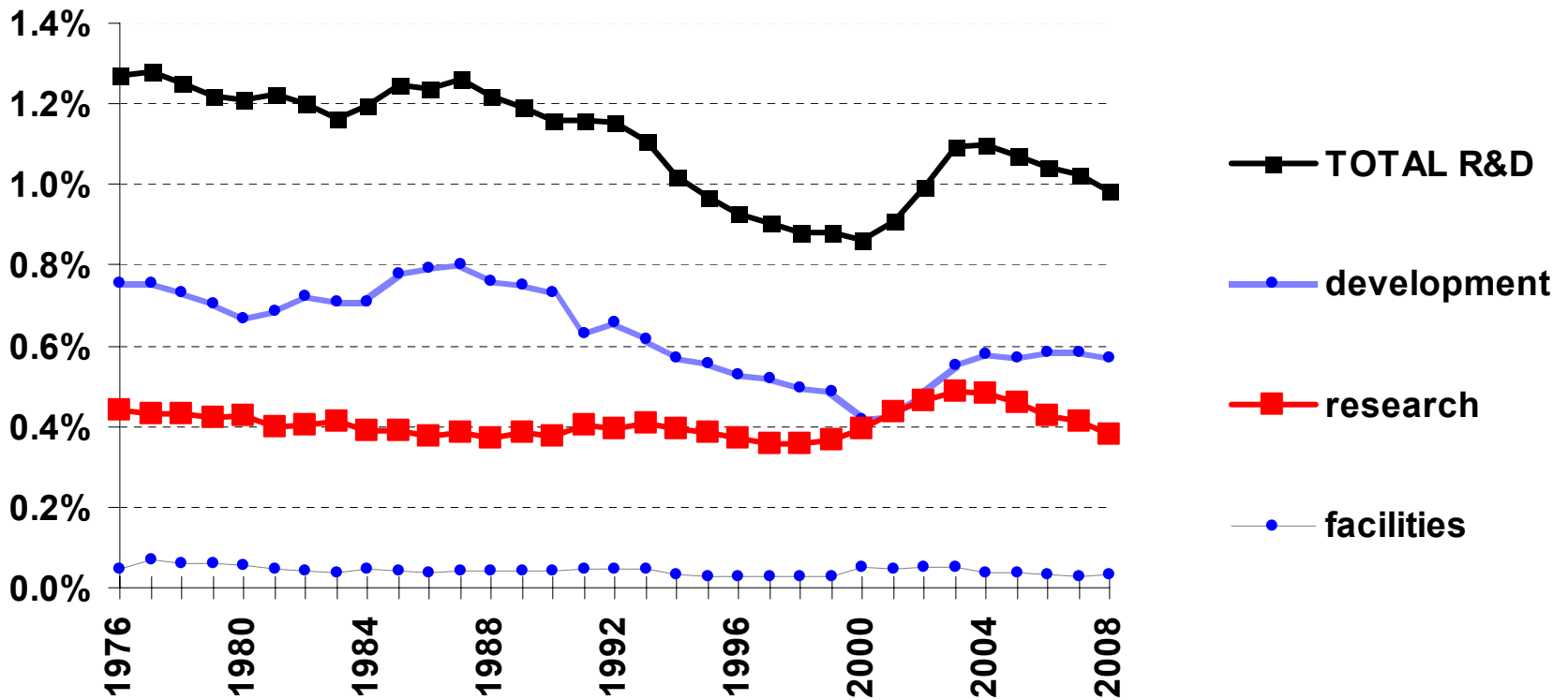


Source: AAAS, based on *Budget of the United States Government FY 2008*.
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WHAT ELSE IS HAPPENING

- Money is important, but so is policy.
- In response to a growing wave of concern over the state of U.S. innovation, there are numerous congressional legislative proposals.
- Authorizing (policy) committees such as the House S&T Committee and the Senate Energy & Nat. Resources Committee are considering legislation to encourage a strong innovation climate in the U.S., with hopes of getting bills to the President this year.
- Bills look at science funding, R&D programs, science and math education, incentives for U.S. innovation, visa policies, etc.

Trends in Federal R&D as % of GDP, FY 1976-2008



Source: AAAS analyses of R&D in annual AAAS R&D reports.
FY 2008 figures are President's 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 2008.
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WHAT'S NEXT?

The budget resolution will give Congress a framework for all later 2008 budget actions.

- Starting in May, the appropriations committees will write 11 2008 appropriations with program-by-program funding levels.
- Other committees will try to get innovation legislation through the House and the Senate.

FOR MORE INFORMATION...

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

