

Federal Budget Proposals for R&D in FY 2009

Kei Koizumi

May 20, 2008

for the University of California

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.

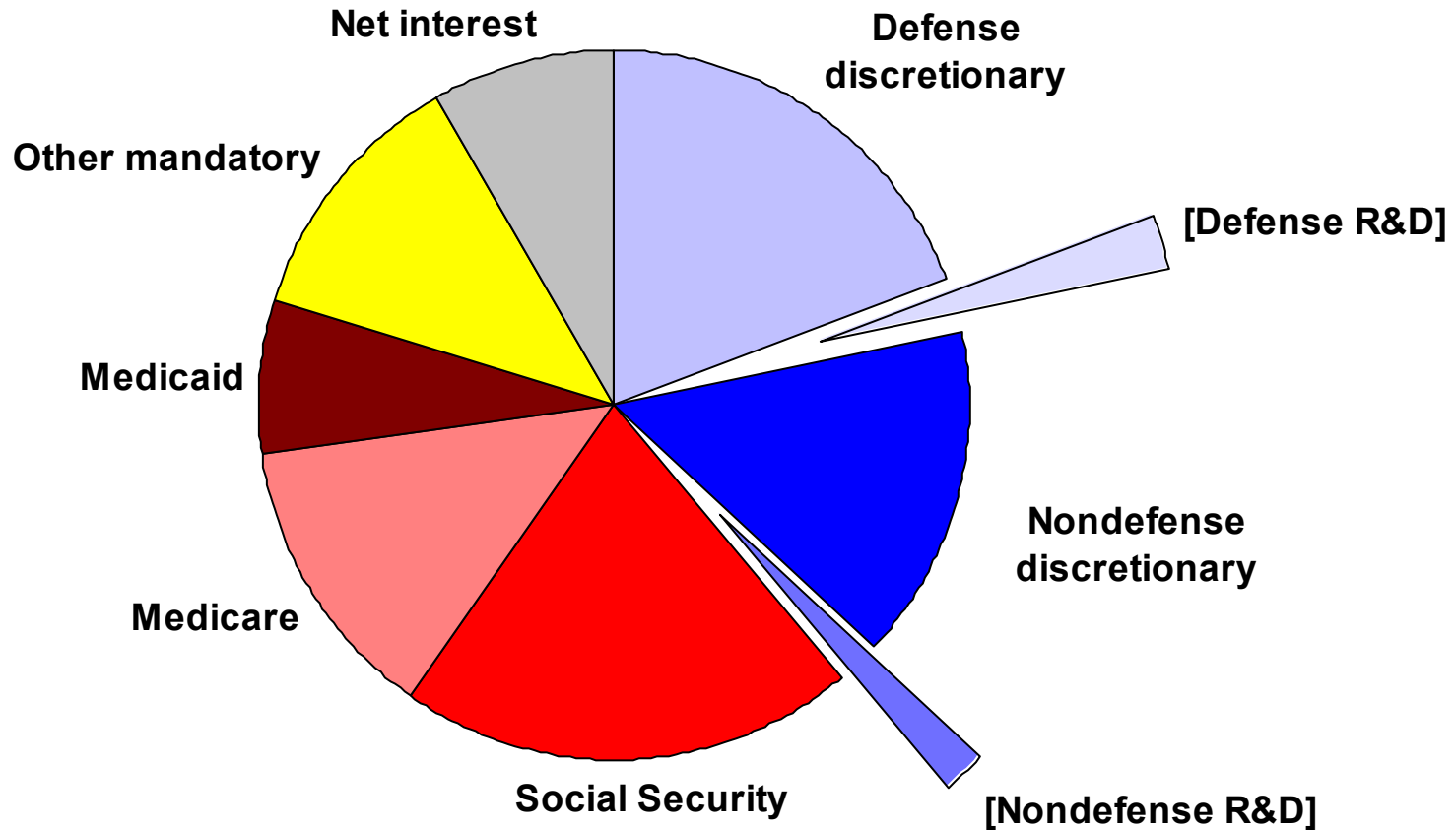


THE 2009 BUDGET

- In February, President Bush proposed a \$3.1 trillion budget for FY 2009.
- To help control the deficit, the President proposes to keep domestic appropriations flat, and leaves most 2009 war funding out of the budget.
- The President's budget proposes steep cuts in many domestic programs and several program eliminations.

Composition of the Proposed FY 2009 Budget

Total Outlays = \$3.1 trillion



Note: Projected Unified deficit is \$407 billion.

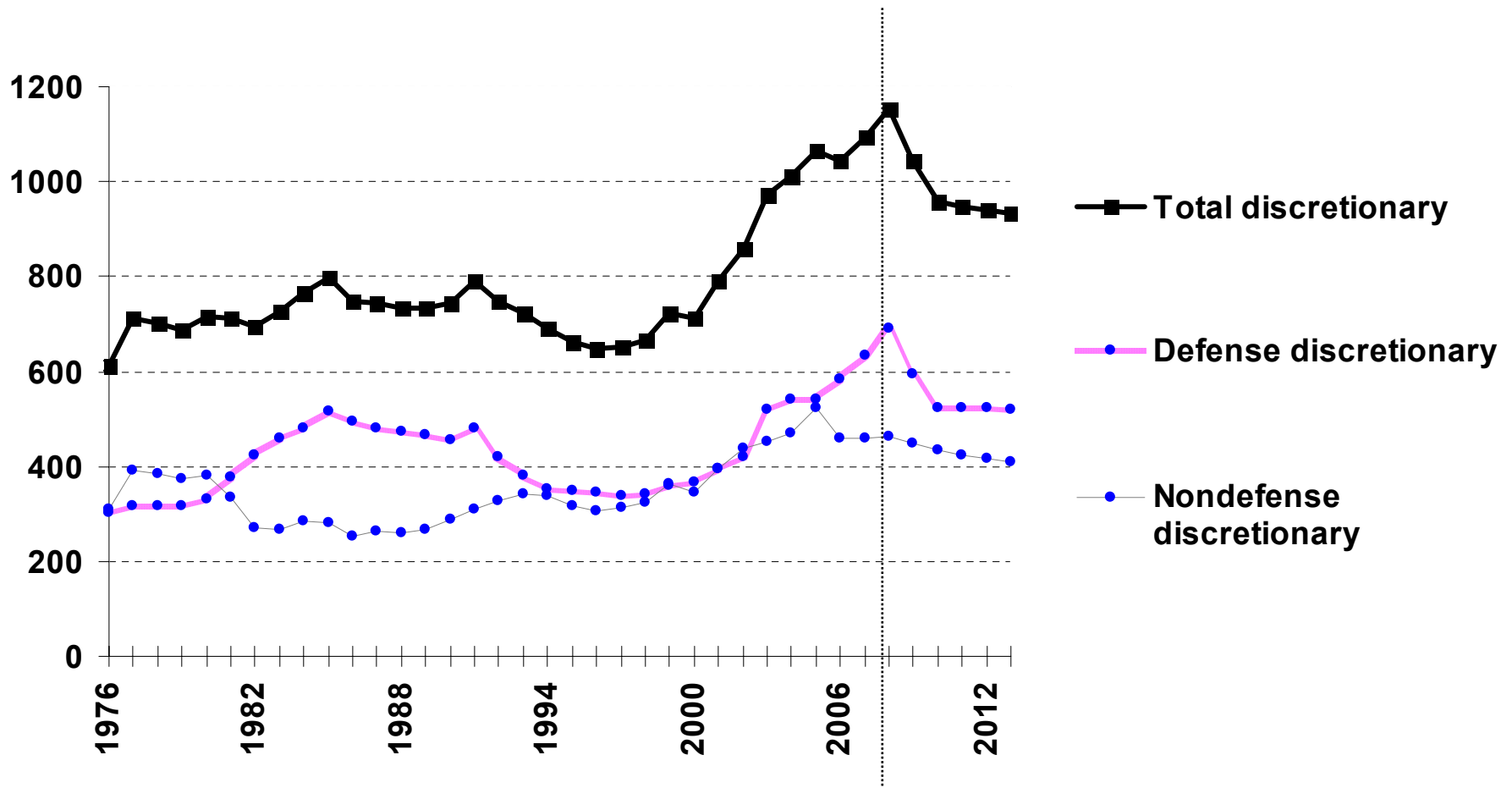
Figures exclude most Iraq and Afghanistan military costs.

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

FEB. '08 © 2008 AAAS

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.

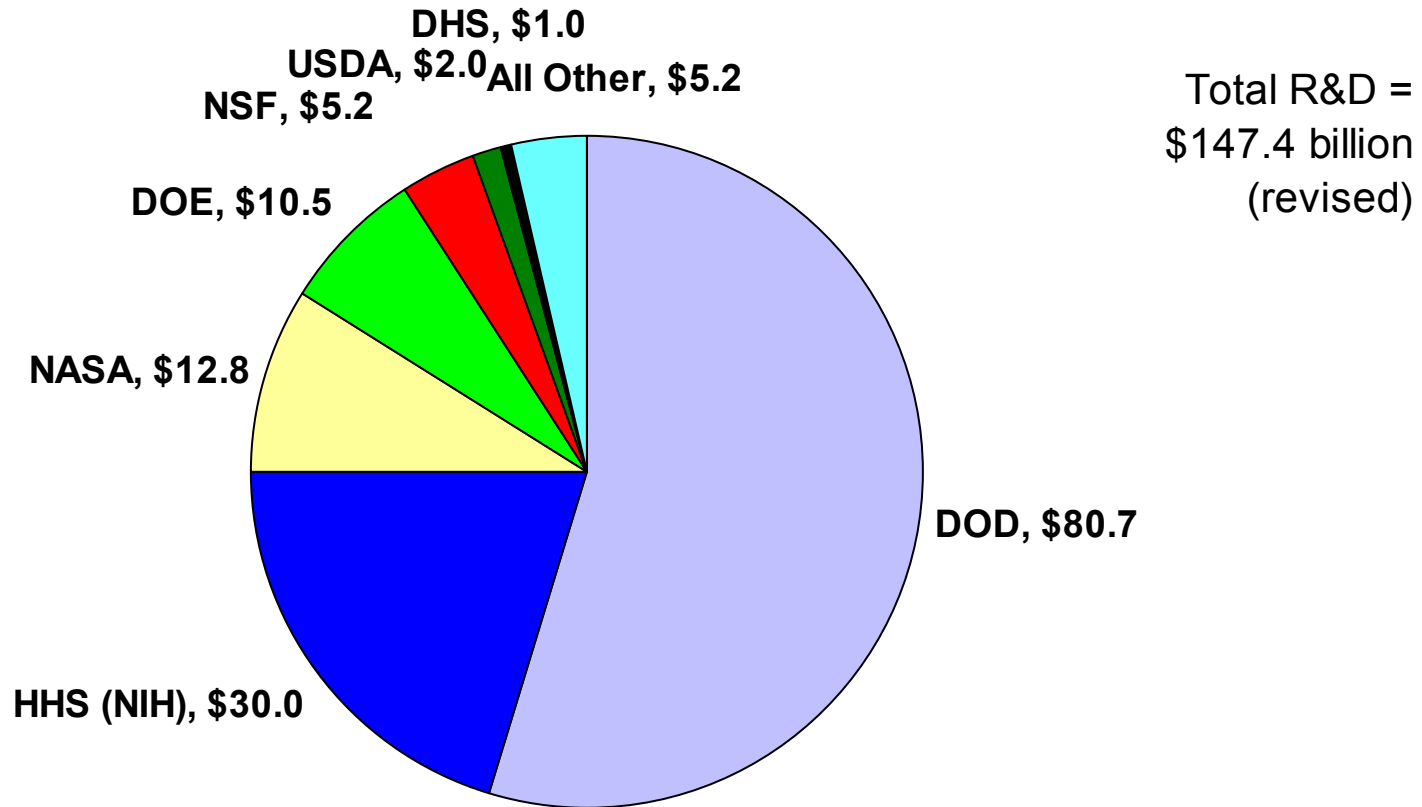
FEB. '08 © 2008 AAAS

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.
- 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



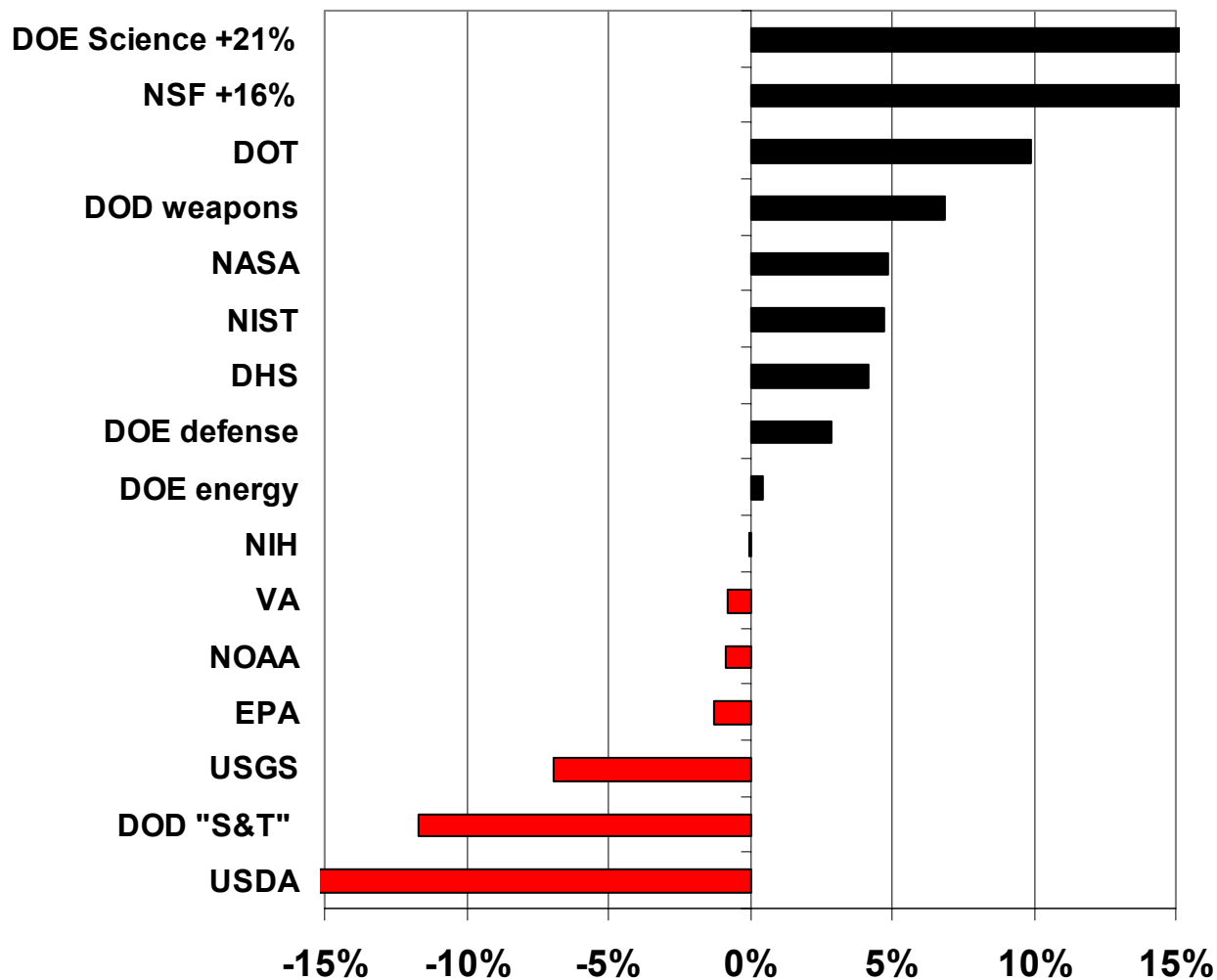
Source: AAAS, based on OMB R&D Budget Data and agency estimates for FY 2009.

MARCH '08 REVISED © 2008 AAAS



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.

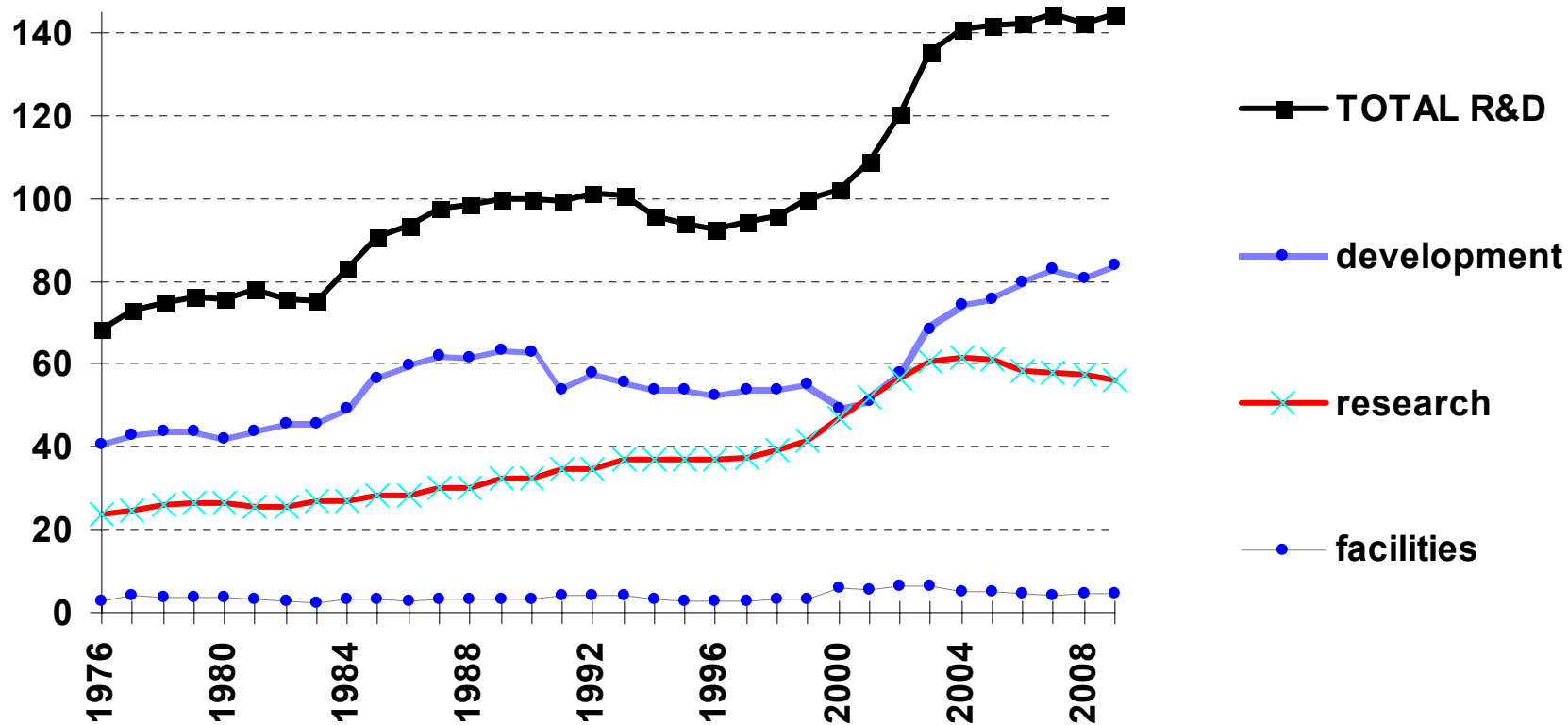
DOD weapons = DOD R&D in "6.4" and higher categories.

MARCH '08 REVISED © 2008 AAAS



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

in billions of constant FY 2008 dollars



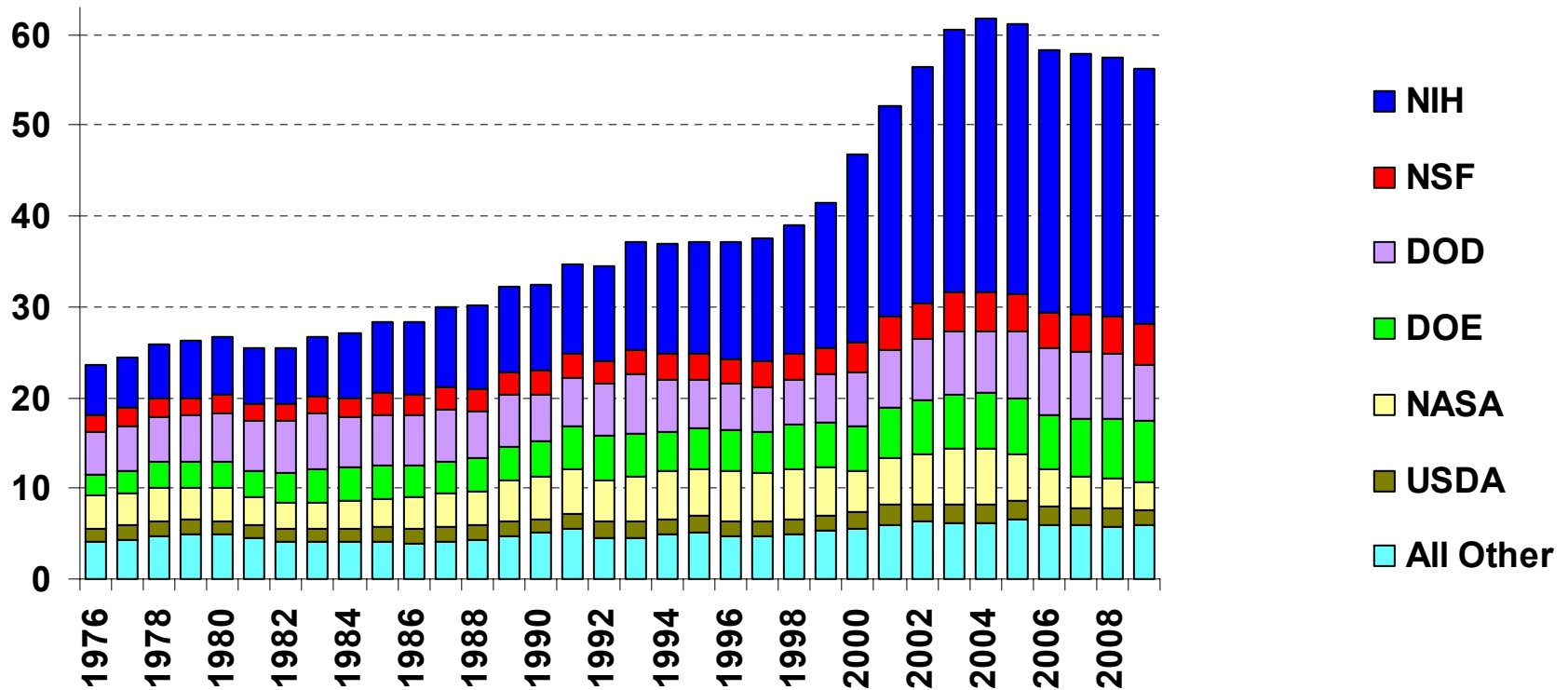
Source: AAAS analyses of R&D in annual AAAS R&D reports. * FY 2009 figures are latest AAAS estimates of FY 2009 request. R&D includes conduct of R&D and R&D facilities. Data to 1984 are obligations from the NSF Federal Funds survey. GDP figures are from OMB, Budget of the U.S. Government FY 2009.

MARCH '08 REVISED © 2008 AAAS



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.

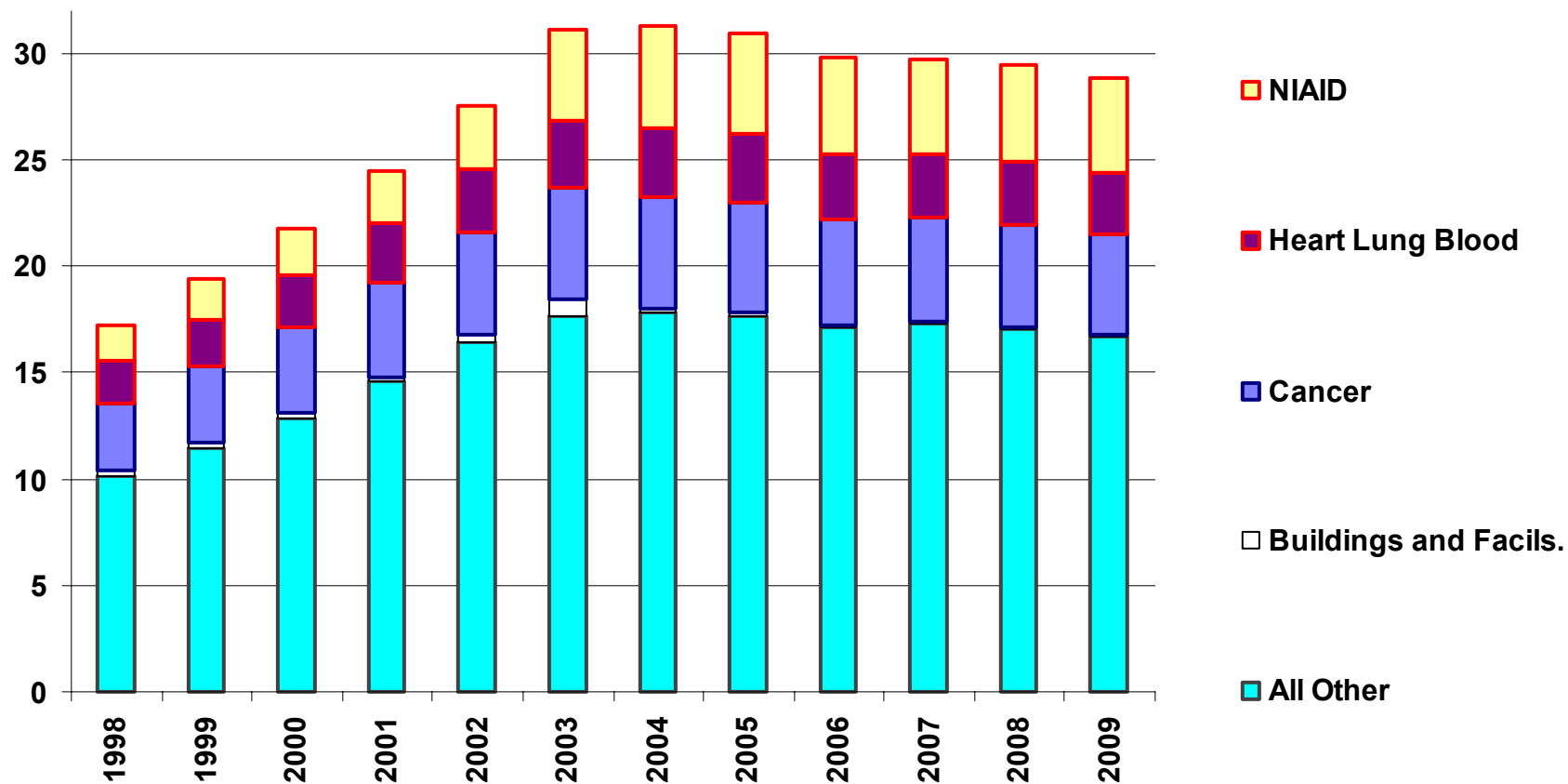
* FY 2009 figures are latest AAAS estimates of FY 2009 request. Research includes basic research and applied research. 1976-1994 figures are NSF data on obligations in the Federal Funds survey.

MARCH '08 REVISED © 2008 AAAS



National Institutes of Health Budget by Institute, 1998-2009 *

(budget authority in billions of constant FY 2008 dollars)



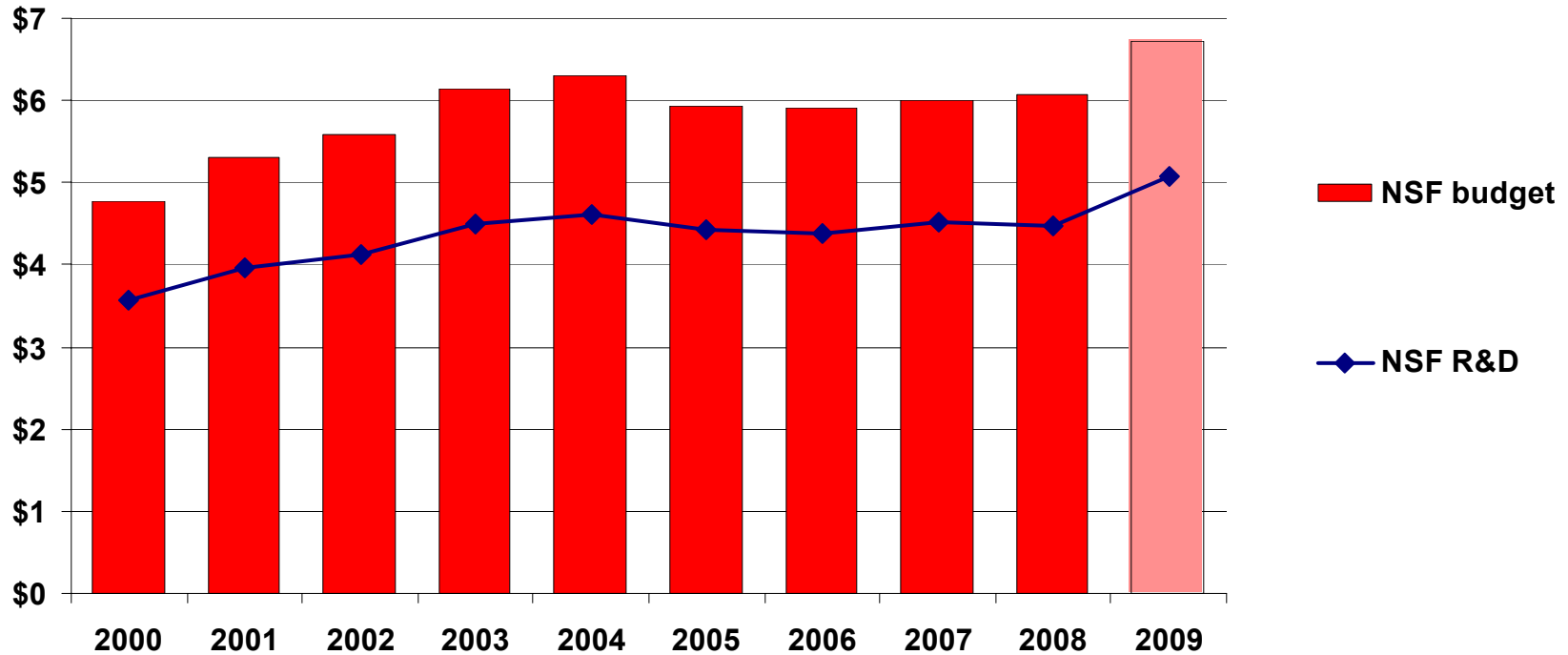
Source: AAAS R&D reports from NIH budget documents 1998-2009. * 2009 is latest AAAS estimates of FY 2009 request. Adjusted for inflation using OMB's GDP deflators.

FEB. '08 © 2008 AAAS



National Science Foundation Budget, FY 2000-2009

(budget authority in billions of constant FY 2008 dollars)

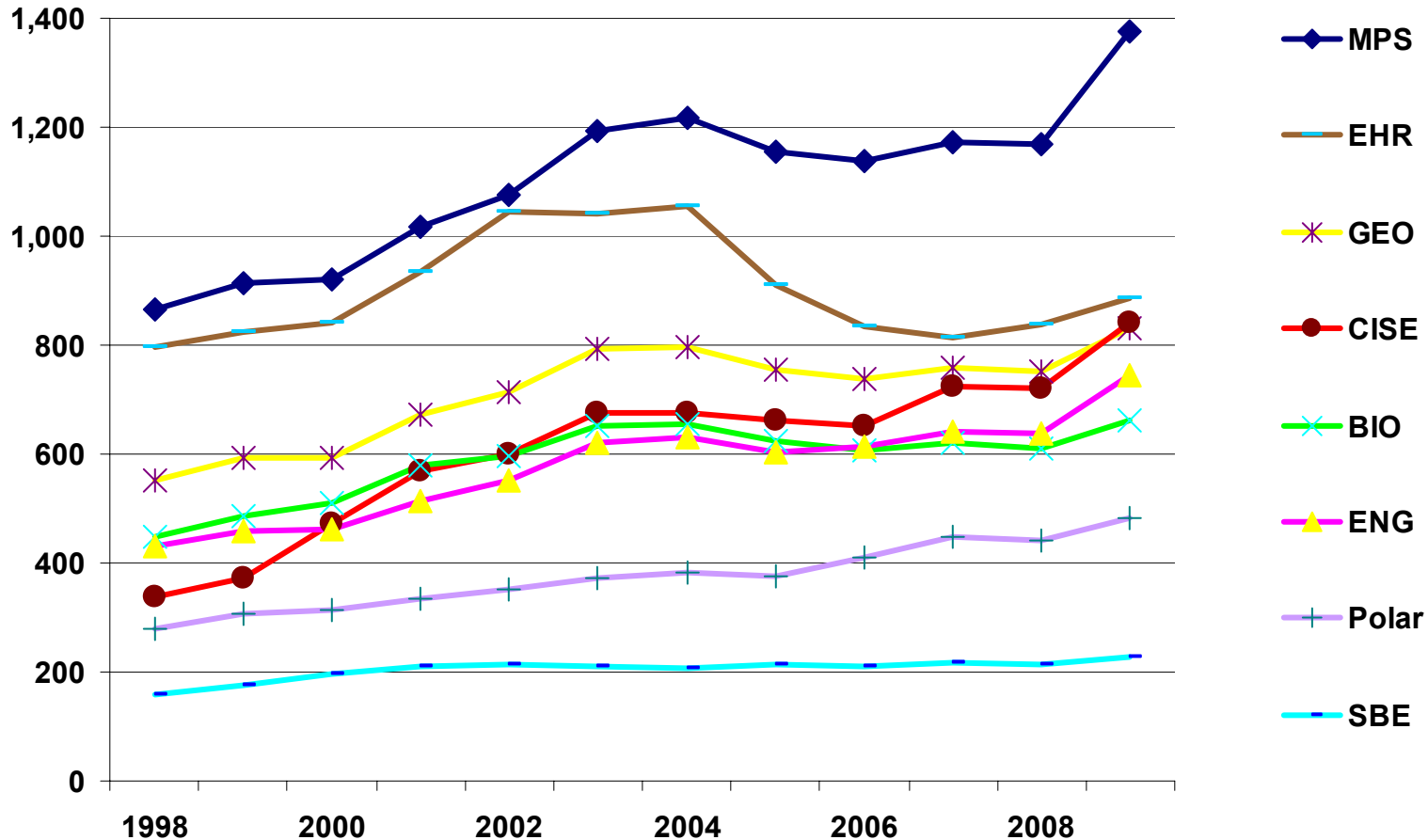


Source: National Science Foundation, and latest AAAS estimates of FY 2009 budget. FY 2009 is budget request.
FEB. '08 © 2008 AAAS



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.

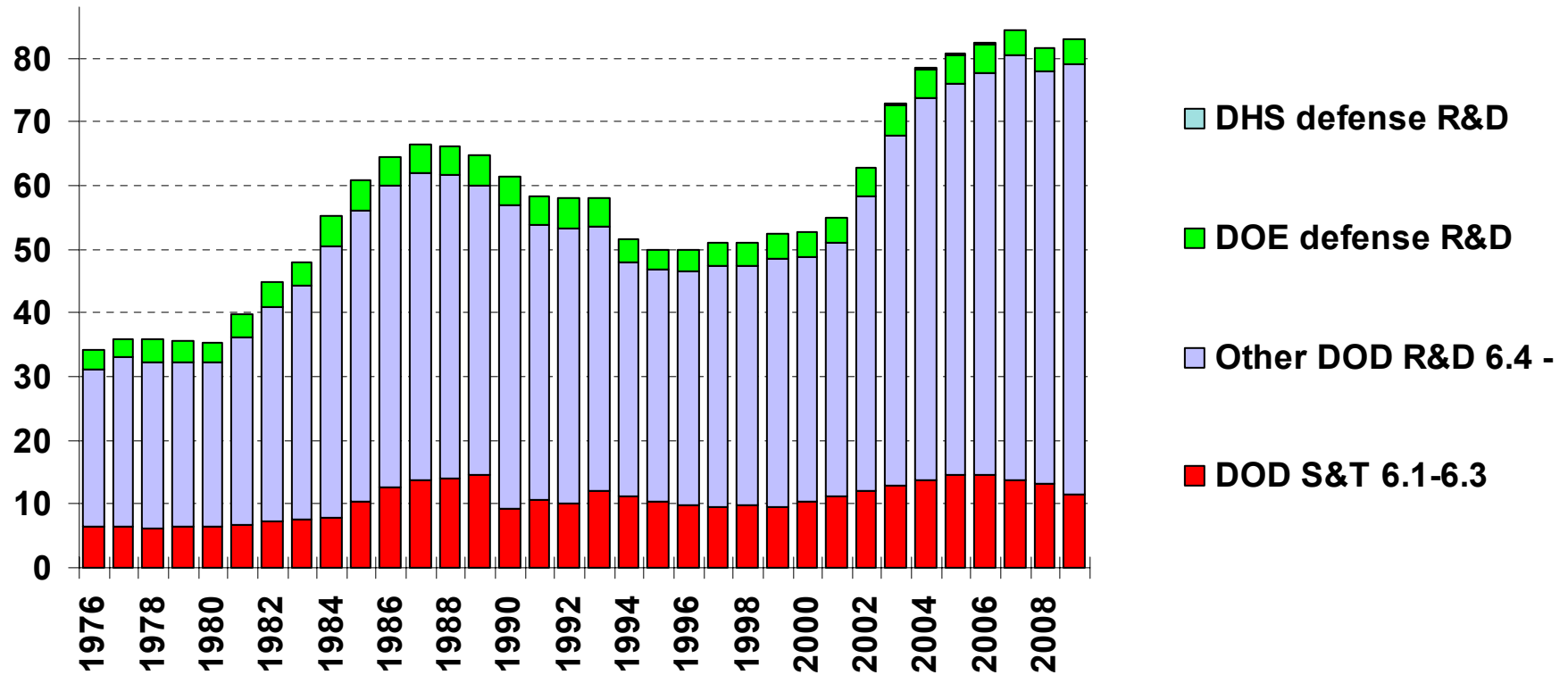
R&D and non-R&D components included in directorate budgets.

FEB. '08 © 2008 AAAS



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

in billions of constant FY 2008 dollars



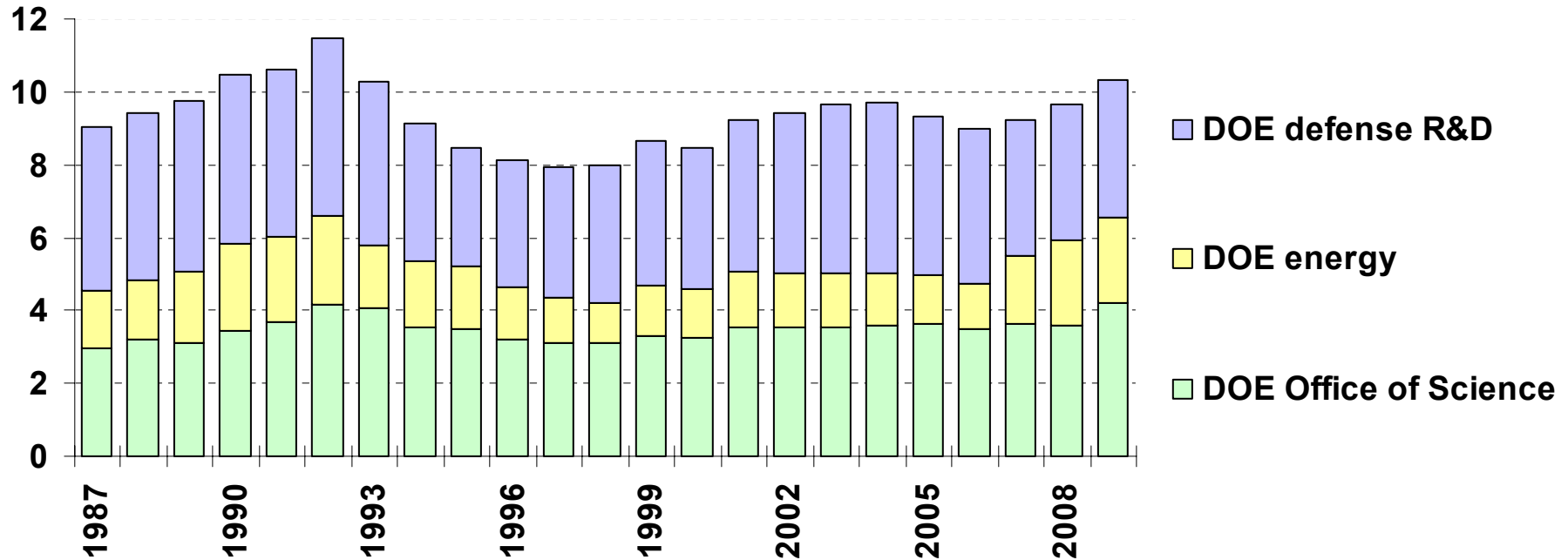
Source: AAAS analyses of R&D in annual R&D reports. * - FY 2009 figures are latest AAAS estimates of FY 2009 request. FY 2008 figures exclude pending supplementals. R&D includes conduct of R&D and R&D facilities. DOD S&T figures are not comparable for all years because of changing definitions.

MARCH '08 REVISED © 2008 AAAS



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.

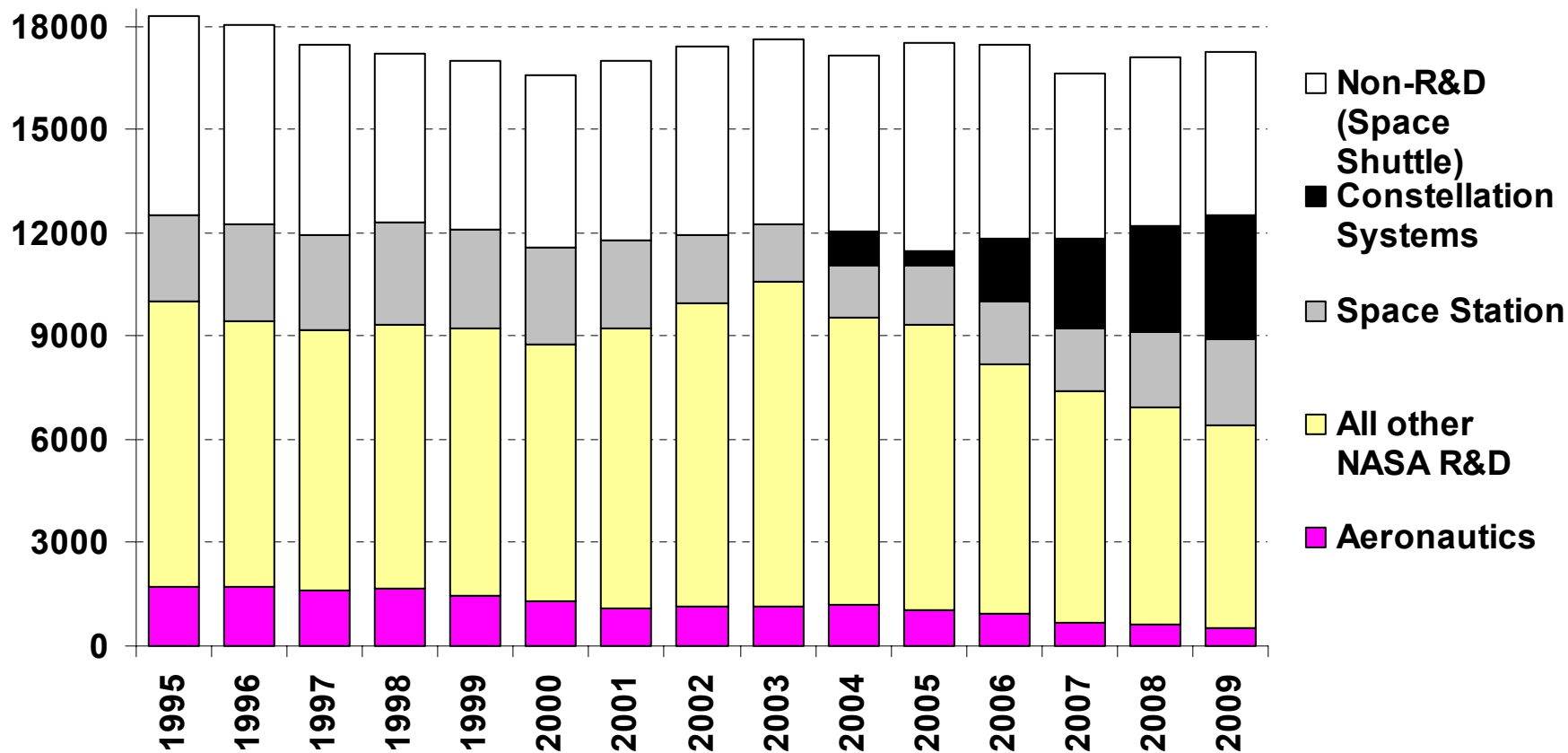
R&D includes conduct of R&D and R&D facilities.

FEBRUARY '08 REVISED © 2008 AAAS



Trends in NASA R&D, FY 1995-2009 *

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. Program budgets include associated support costs.

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

MARCH '08 REVISED © 2008 AAAS

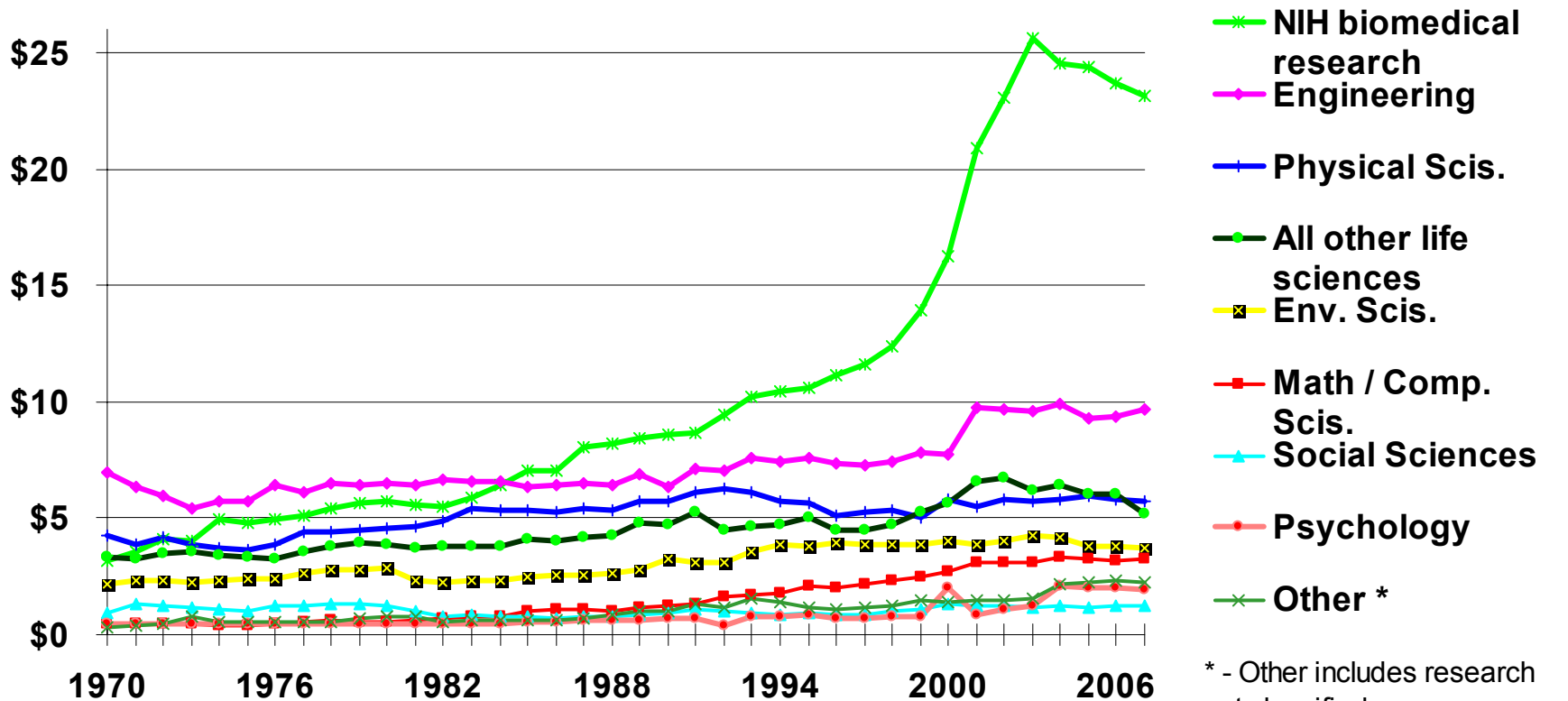


THE FY 2009 BUDGET AND HISTORICAL TRENDS: STILL FALLING

- The 2009 proposed increases do not change the overall trends of declining federal support for research.
- Federal research in support of many national missions is in decline, including health. Funding for other areas such as homeland security and climate change science appear to be increasing again.
- Federal research investments would fall in real terms for the fifth year in a row in the 2009 budget, and are shrinking as a share of the U.S. economy.

Trends in Federal Research by Discipline, FY 1970-2007

obligations in billions of constant FY 2008 dollars



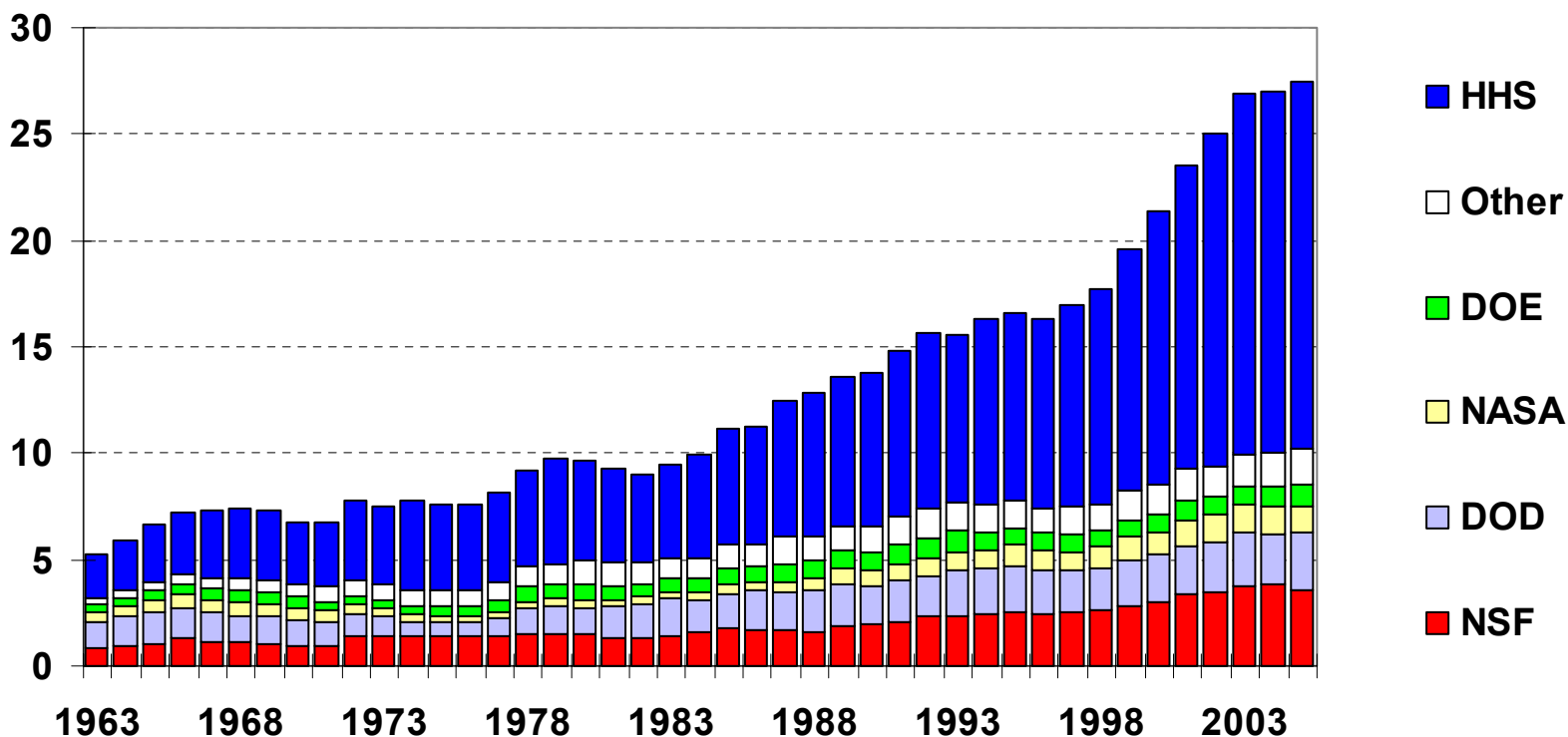
* - Other includes research not classified (includes basic research and applied research; excludes development and R&D facilities)

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



Federal R&D Funding to Colleges and Universities FY 1963-2005

Obligations by agency in billions of constant FY 2008 \$



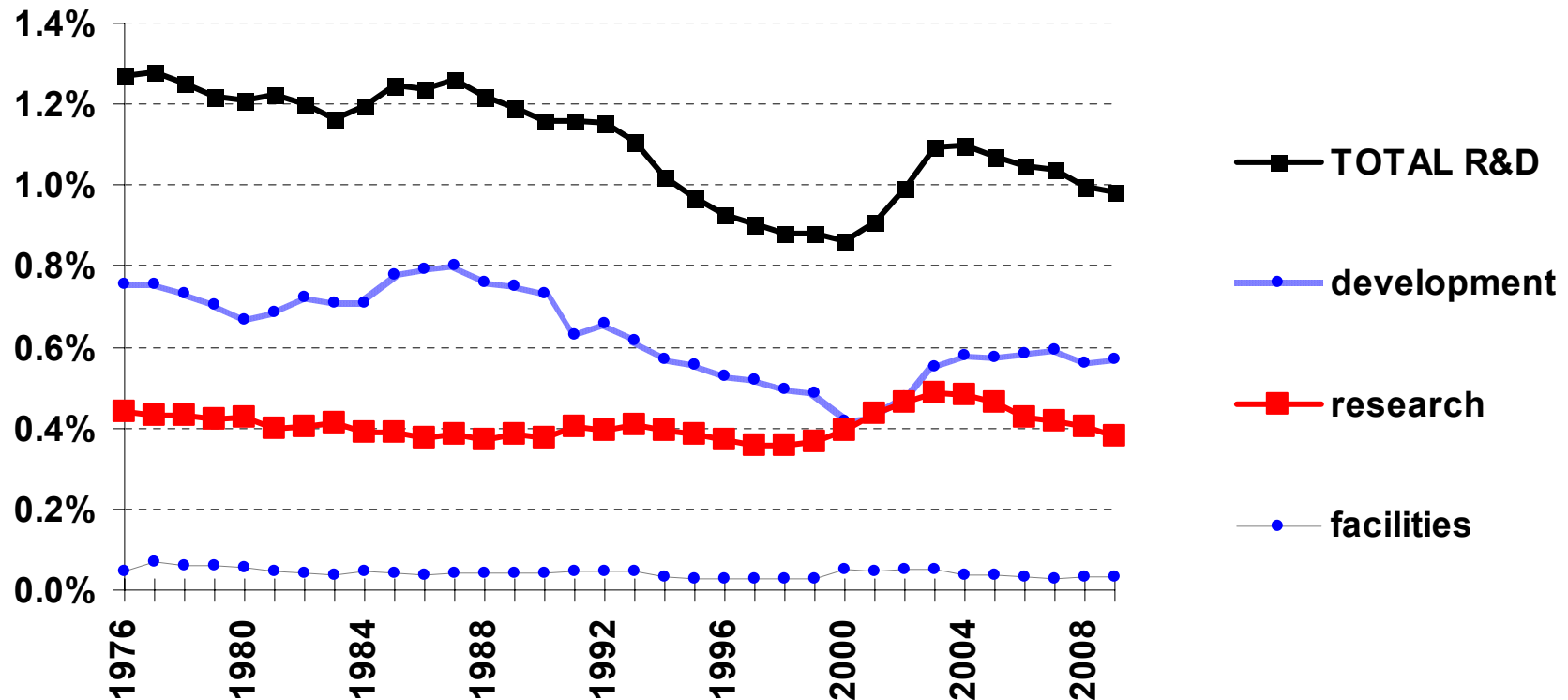
Source: AAAS, based on NSF, *Federal Science and Engineering Support to Universities, Colleges, and Nonprofit Institutions, FY 2005, 2007.*

R&D includes research, development, and R&D facilities support. 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.
MARCH '08 REVISED © 2008 AAAS



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, NIH, NSF, and NIST).
- 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

Intersociety Working Group

