

Federal R&D Investments in the 2009 Budget and Beyond

Kei Koizumi

January 26, 2009

for the AAMC GREAT Group Steering 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.

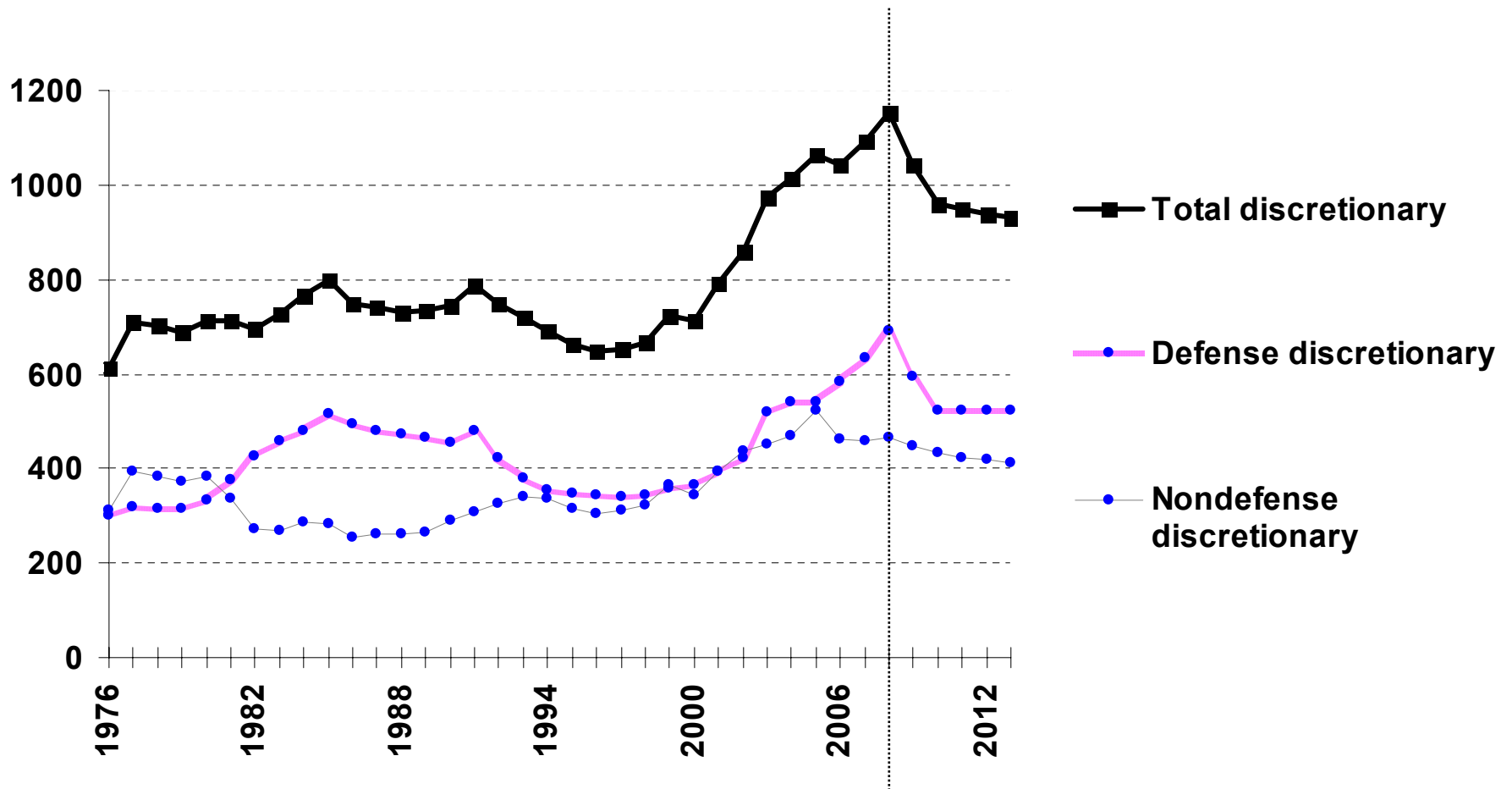


THE FY 2009 BUDGET SITUATION

- The federal government had a record budget deficit of \$455 billion in FY 2008, and will have a deficit exceeding \$1 trillion in FY 2009.
- Domestic appropriations have barely kept pace with inflation since 2004.
- Historically, federal R&D investments have closely tracked trends in discretionary spending.
- FY 2009 appropriations are unfinished, and an emergency economic stimulus bill is on its way. President Obama and the new 111th Congress are negotiating these bills. Together, the bills could boost domestic spending dramatically this year and next year.

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.

THE FY 2009 BUDGET

FY 2009 has started, but only 3 departments (DOD, DHS, VA) have their final 2009 budgets.

The remaining federal agencies are operating under a CR (continuing resolution) at or below 2008 levels through March 6.

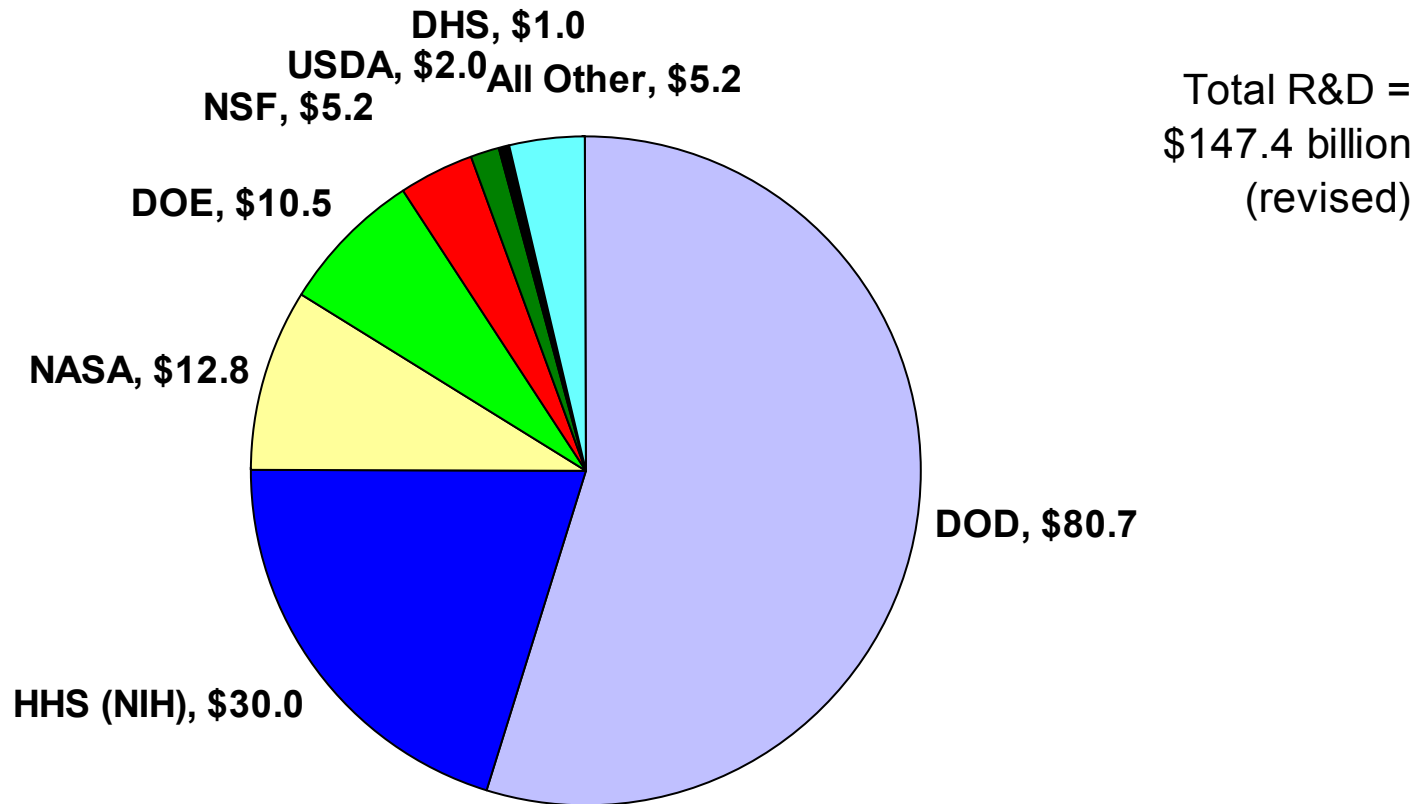
Because President Bush threatened to veto any appropriations bills that exceed his request, Congress delayed the bills, which would collectively add \$21 billion to the request for domestic programs.

Congress plans to send the remaining 9 (of 12) 2009 appropriations bills to President Obama in February or March.

There will be significant dollars for R&D, science and math education, and science infrastructure funding as part of an economic stimulus package. The House bill contains \$13.3 billion in R&D funding.

Total R&D by Agency: FY 2009 Proposed

Budget Authority in billions of dollars



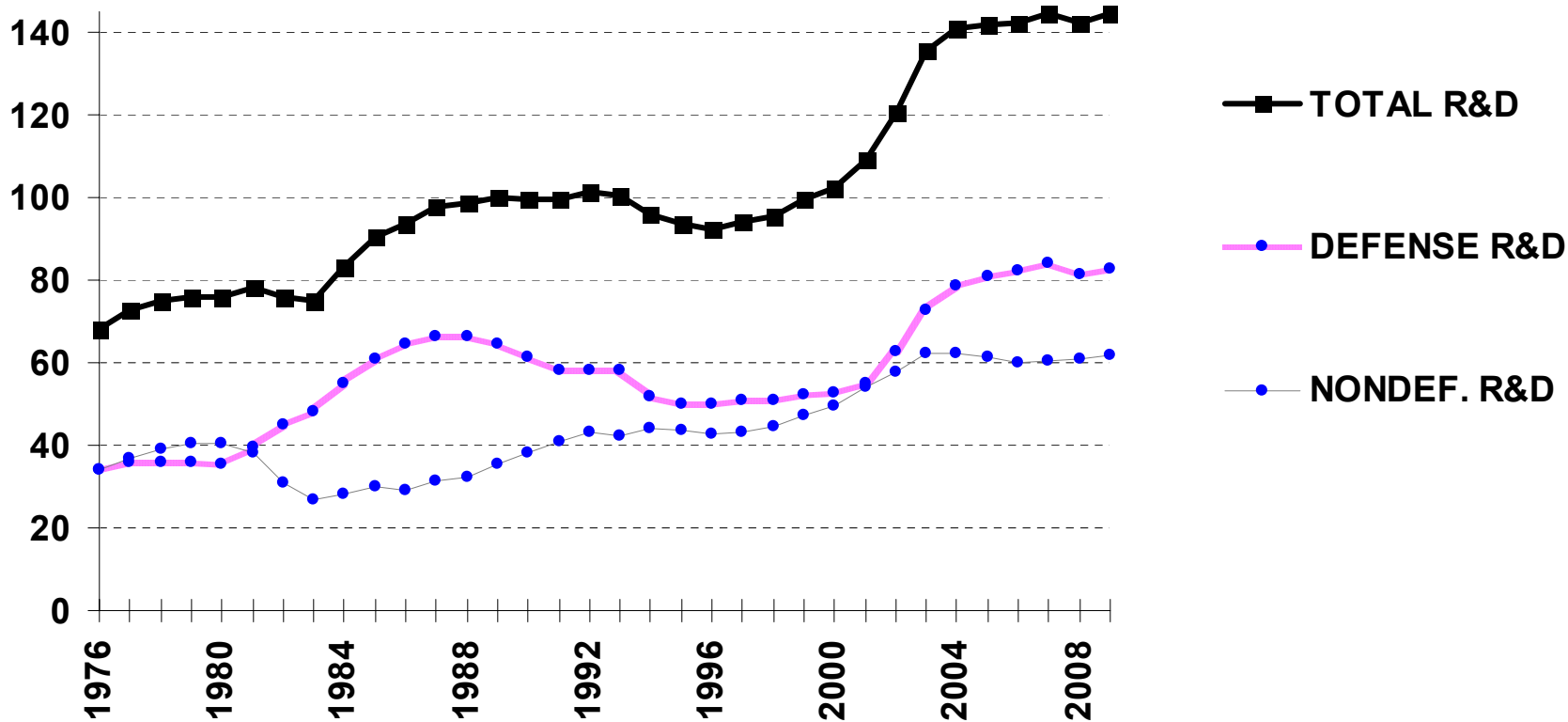
Source: AAAS, based on OMB R&D Budget Data and agency estimates for FY 2009.

MARCH '08 REVISED © 2008 AAAS



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

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.

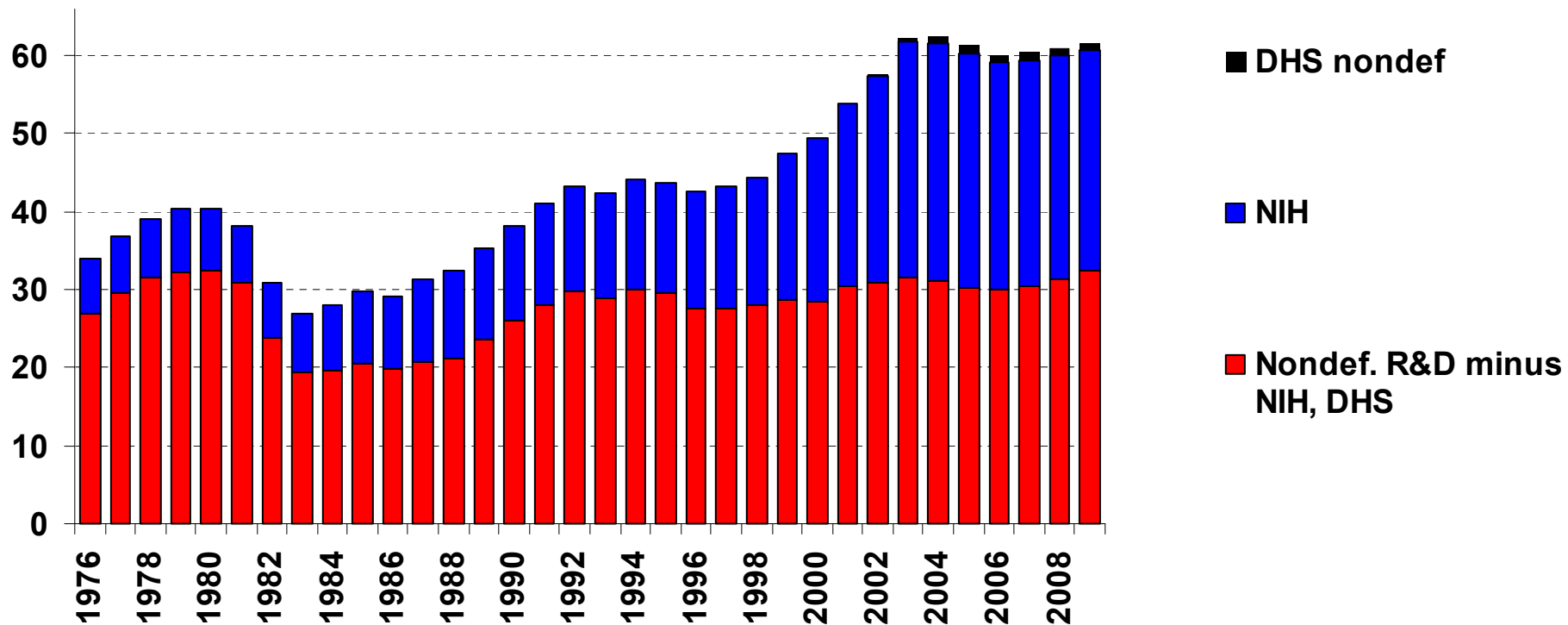
R&D includes conduct of R&D and R&D facilities.

MARCH '08 REVISED © 2008 AAAS



Selected Trends in Nondefense R&D, FY 1976-2009*

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.

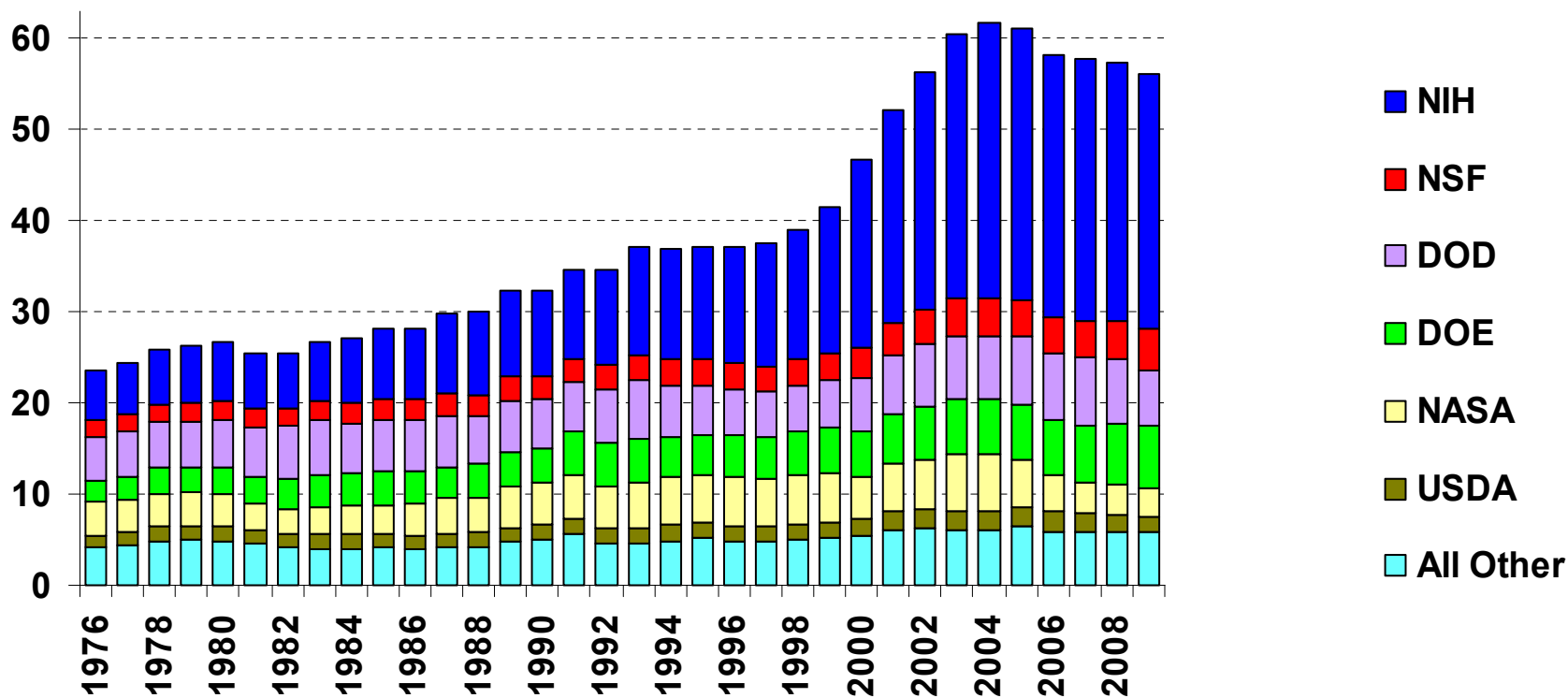
R&D includes conduct of R&D and R&D facilities.

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



ECONOMIC STIMULUS

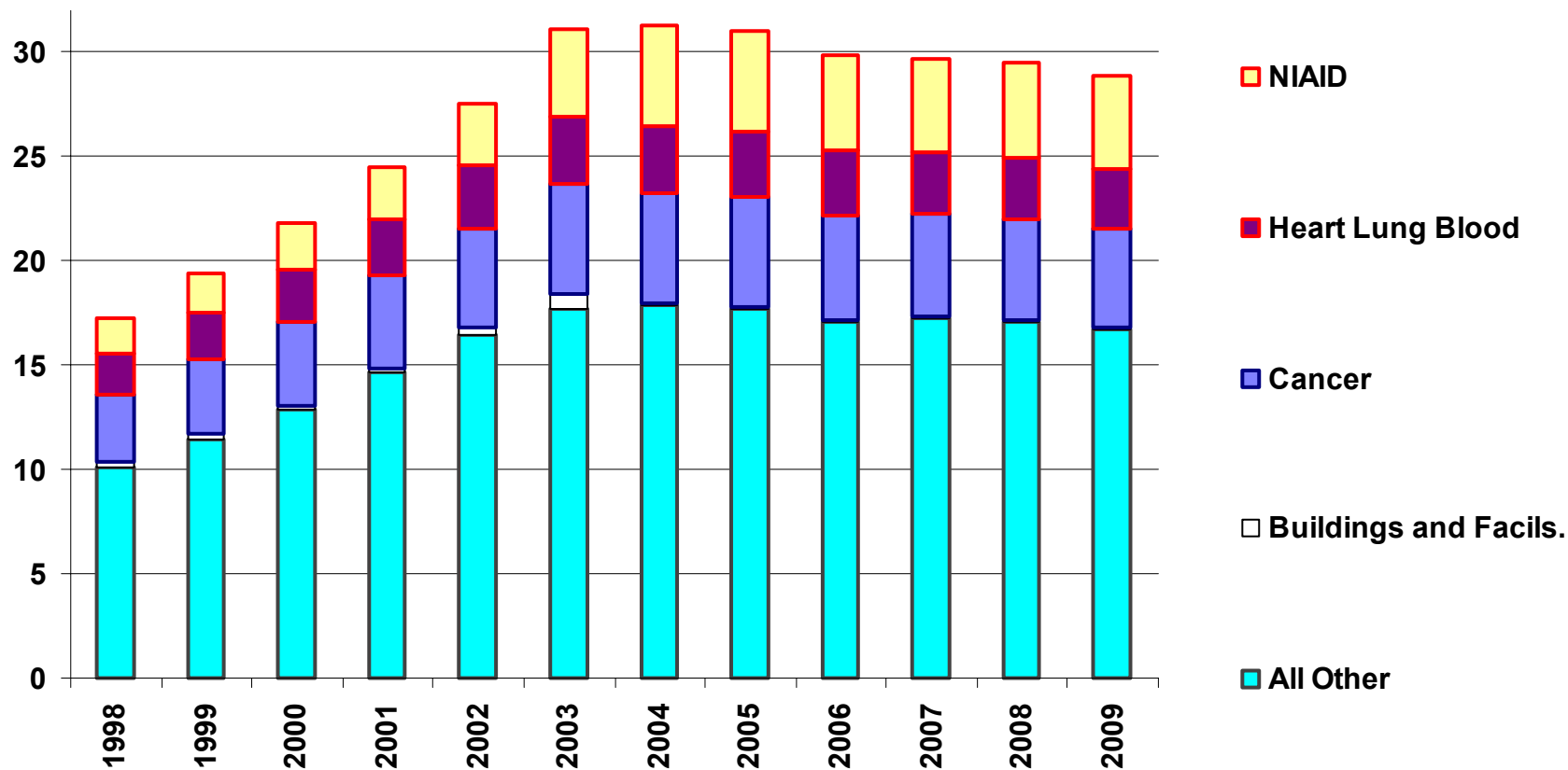
- The (House) stimulus offers supplemental 2009 appropriations, even though most agencies still don't have regular 2009 appropriations.
- Biomedical research would do well: \$3.9 billion for NIH, and \$420 million for BARDA.
- Basic research in the physical sciences: the stimulus would put NSF (\$3.0 billion), DOE Office of Science (\$2.0 billion), and NIST (\$520 million) on track to double their budgets over 7 to 10 years, as promised in the Obama campaign and in the America COMPETES Act of 2007.
- Energy and climate are also high priorities: \$2.0+ billion for DOE energy R&D, \$600 million for NASA (mostly for climate), \$1.0 billion for NOAA.
- Funding would be split between research grants, and quick-spending infrastructure (lab construction, instrumentation).

POTENTIAL IMPACTS

- If FY 2009 appropriations and the stimulus are finalized, federal funding for research and federal funding for biomedical research could see real increases in 2009 after four years of real cuts.
- The stimulus bill could provide unprecedented federal support for academic facilities and instrumentation.
- NSF and NIH success rates could improve dramatically in FY 2009.
- So far, ideas for federal support for graduate research, training, postdocs, and starting faculty are missing from the stimulus.

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

(budget authority in billions of constant FY 2008 dollars)

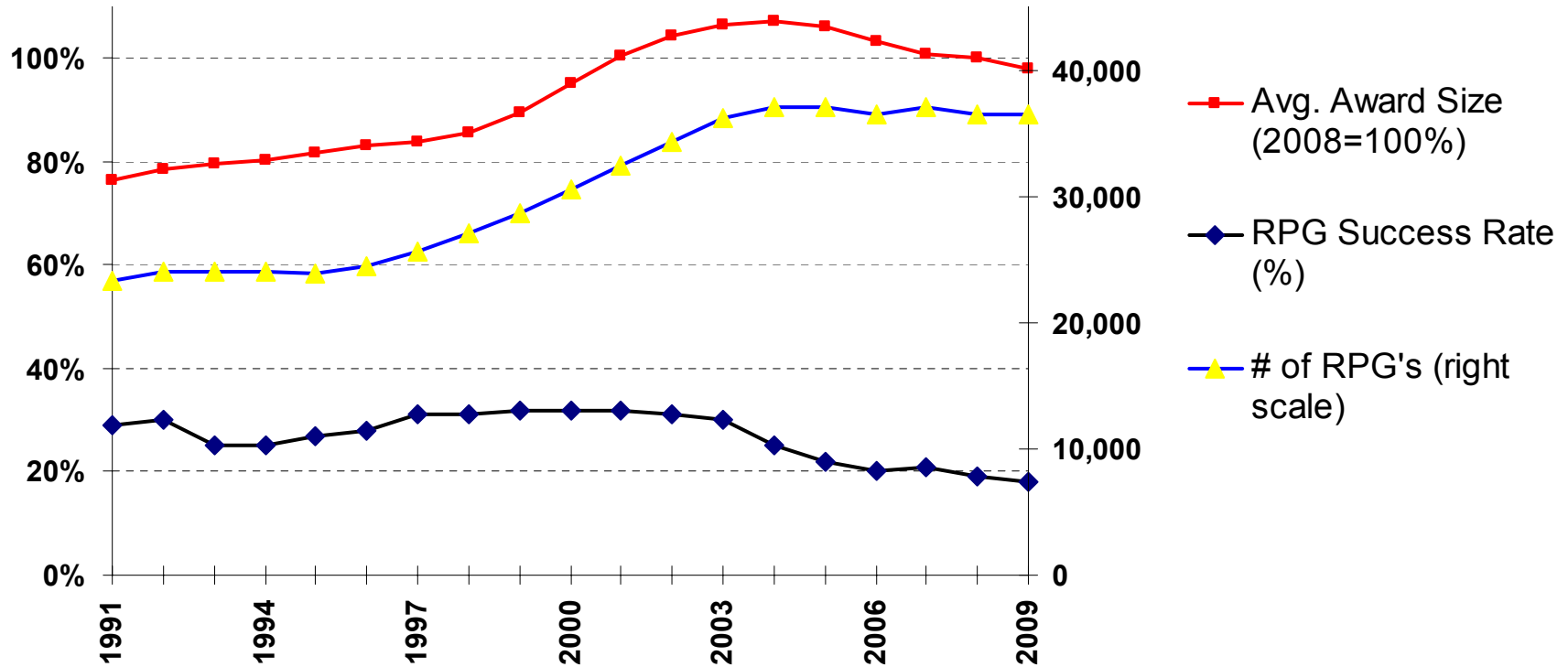


Source: AAAS R&D reports from NIH budget documents 1998-2009. * 2009 is latest AAAS estimates of FY 2009 request. Adjusted for inflation using OMB's GDP deflators.

FEB. '08 © 2008 AAAS



National Institutes of Health Research Project Grants

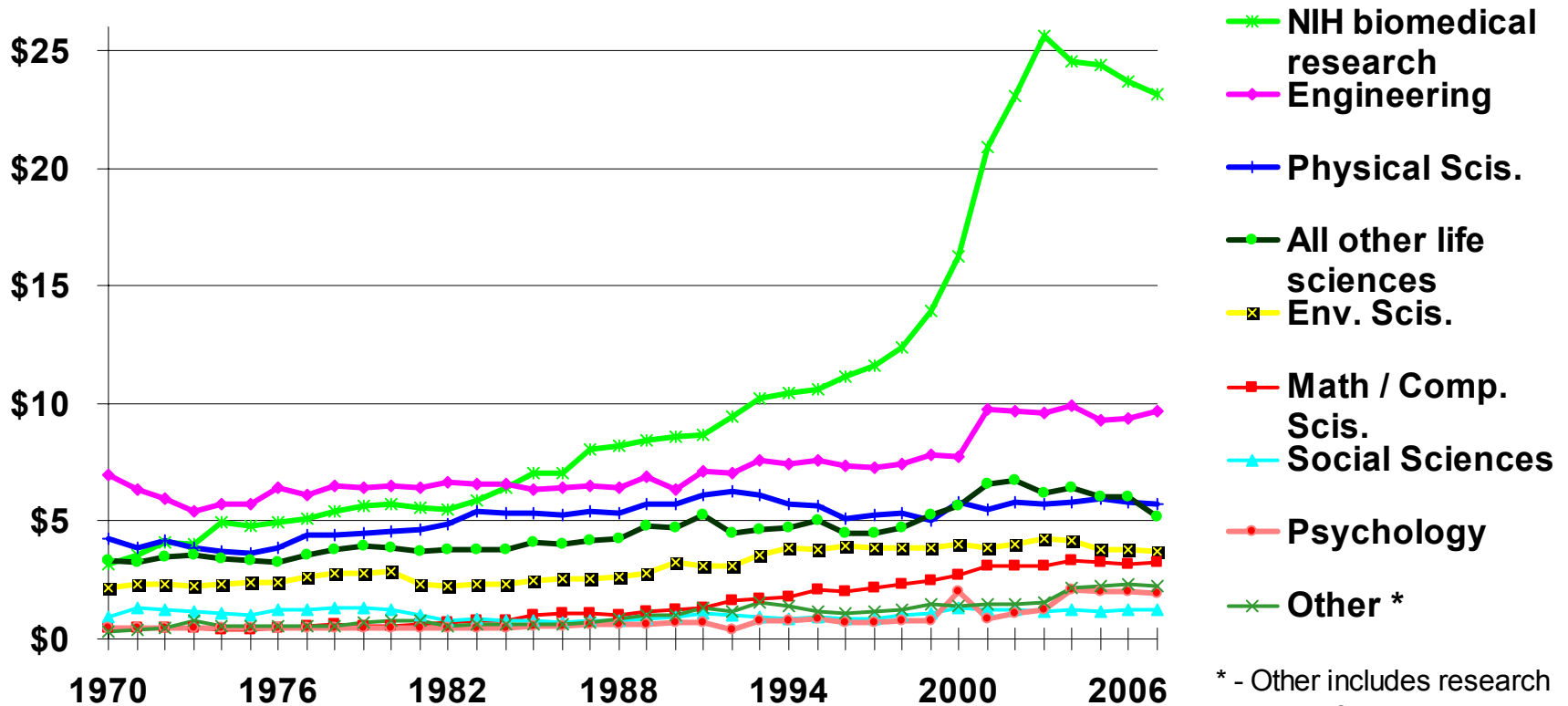


Source: NIH agency budget justification for FY 2009. Average proposed award size \$408,800 in FY 2008. Other years adjusted for inflation.
FEB. '08 © 2008 AAAS



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



WHERE IS FEDERAL R&D FUNDING HEADED?

- The new Congress and President Obama could finish FY 2009 appropriations with increased funding for key R&D programs, and could split funding between the economic stimulus bill and an omnibus appropriations bill.
- The FY 2010 budget proposal will be released in April; it will be the first budget to be formulated under current economic conditions.
- Even at a time when policymakers are concerned about U.S. leadership in science and technology eroding, and when proposed R&D increases are authorized in the America COMPETES Act and other legislation, the problem is how to find the resources in a recession. And there are big questions to be answered about how permanent some of the stimulus spending will be.

FOR MORE INFORMATION...

The AAAS R&D web site
is

www.aaas.org/spp/rd

The AAAS Forum on
Science and
Technology Policy is
30 April – 1 May 2009
in Washington, DC

