

# Federal Funding for Research and Development and the Federal Budget

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February 13, 2008

for the U.S. Congress

AAAS R&D Budget and Policy Program

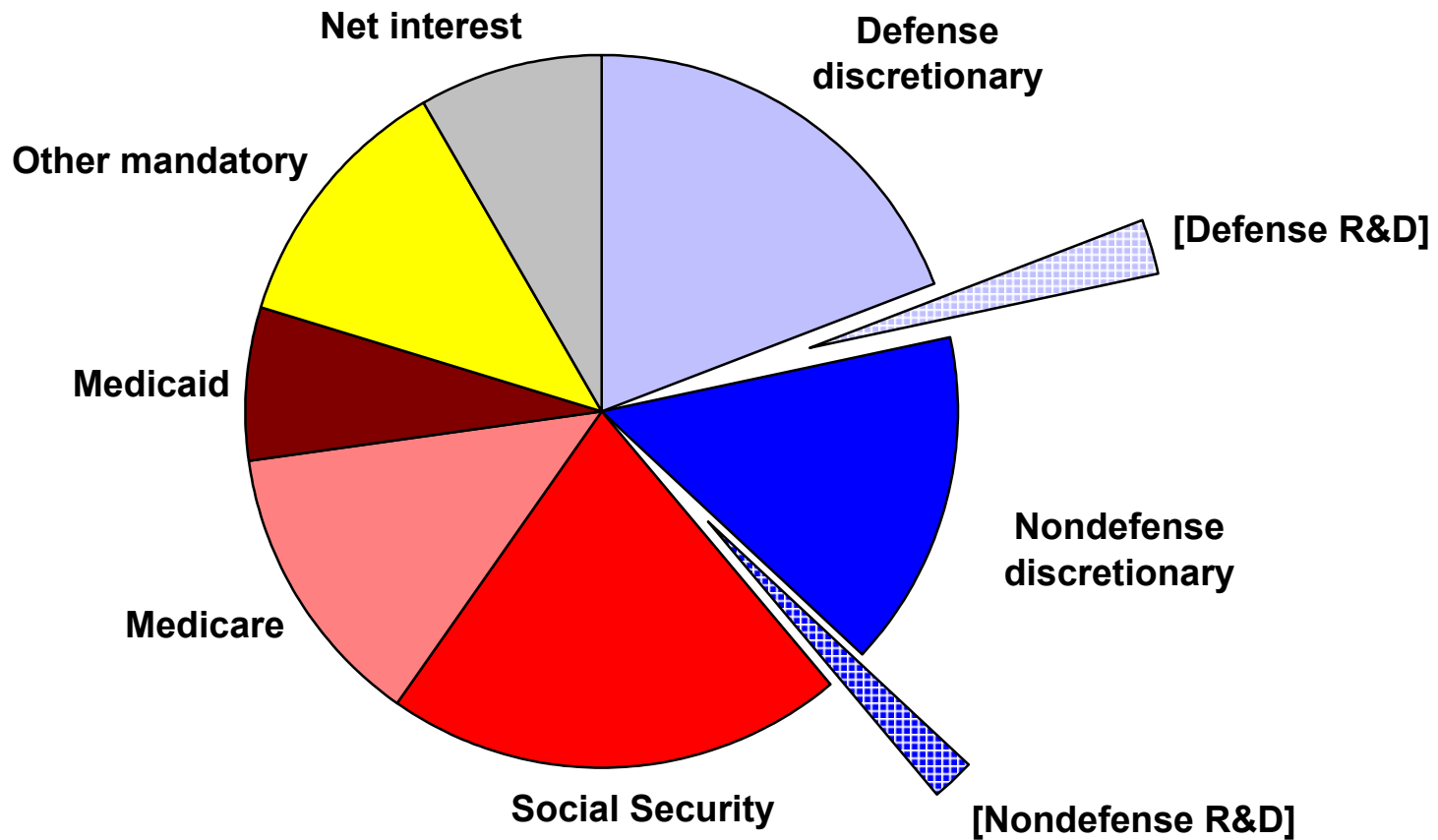
<http://www.aaas.org/spp/rd>

See the “What’s New” section for the latest updates; see the “Seminars and Presentations” section for copies of this presentation.



# 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.

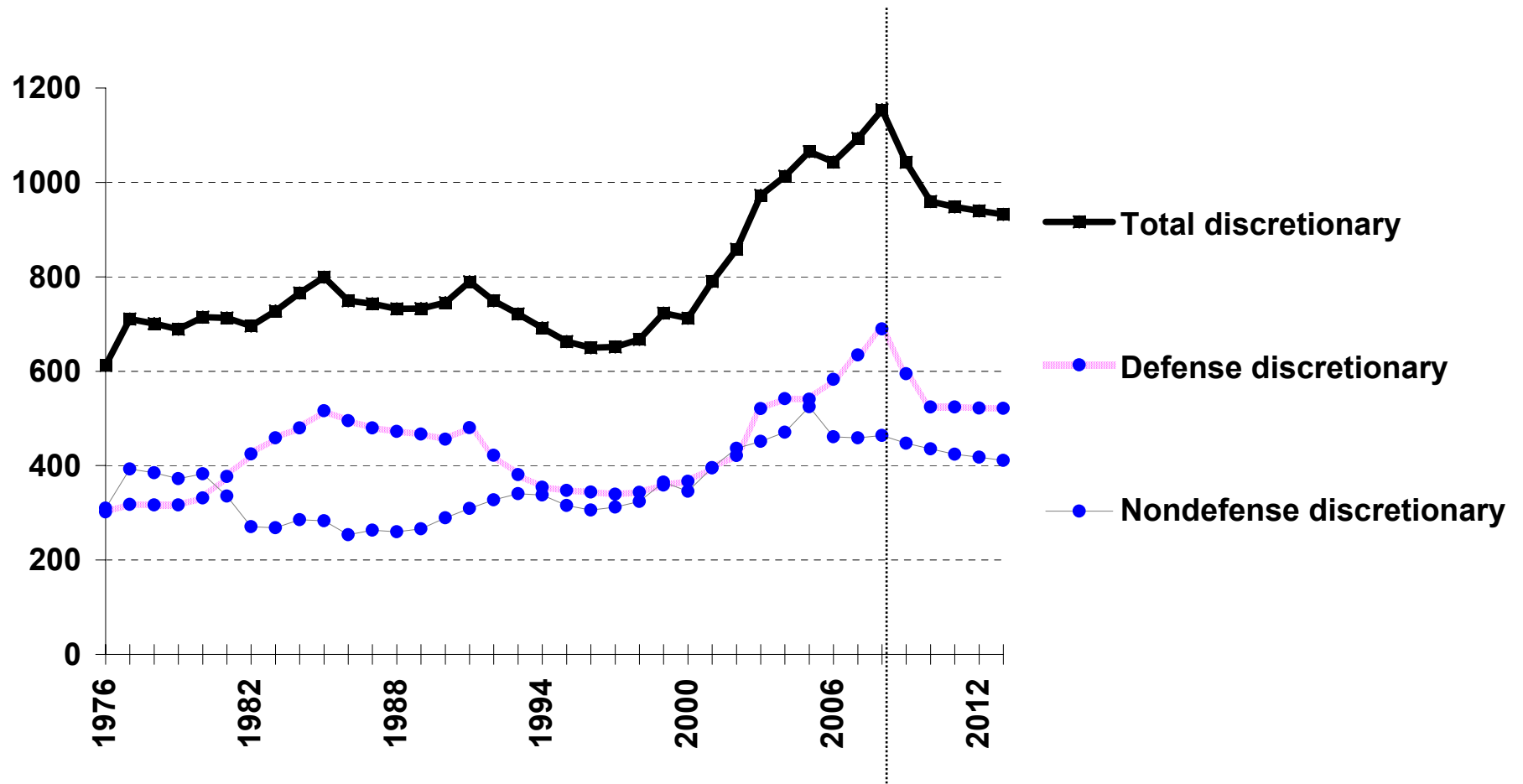
Source: AAAS, based on *Budget of the United States Government FY 2009*.

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## Trends in Discretionary Spending, FY 1976-2013

in billions of constant FY 2008 dollars

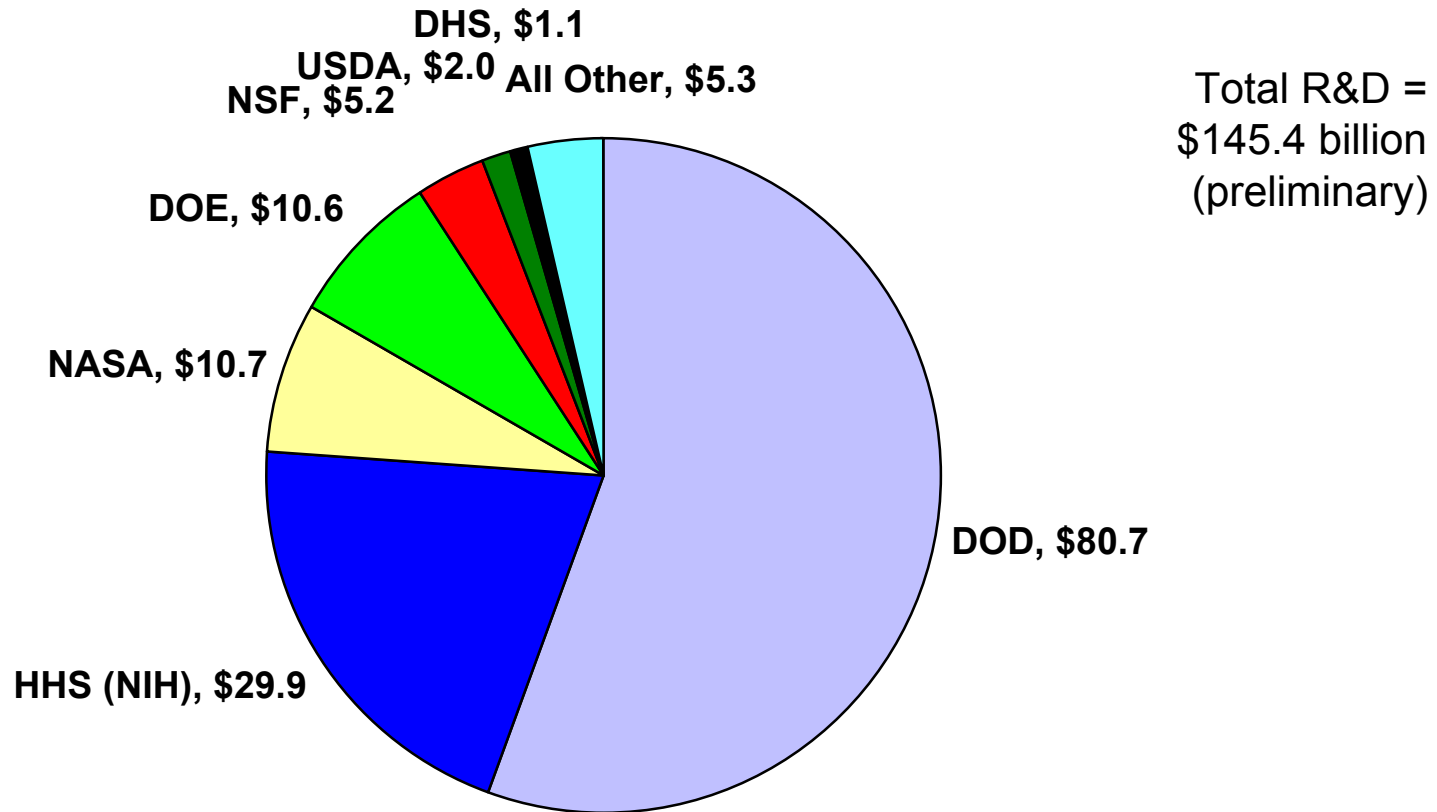


Data in fiscal years. Source: *Budget of the United States Government, FY 2009*.  
 FY 2008 data are estimates. FY 2009-2013 data are budget projections. FY  
 2009-2013 figures exclude Iraq and Afghanistan military costs.  
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## Total R&D by Agency: FY 2009 Proposed

Budget Authority in billions of dollars



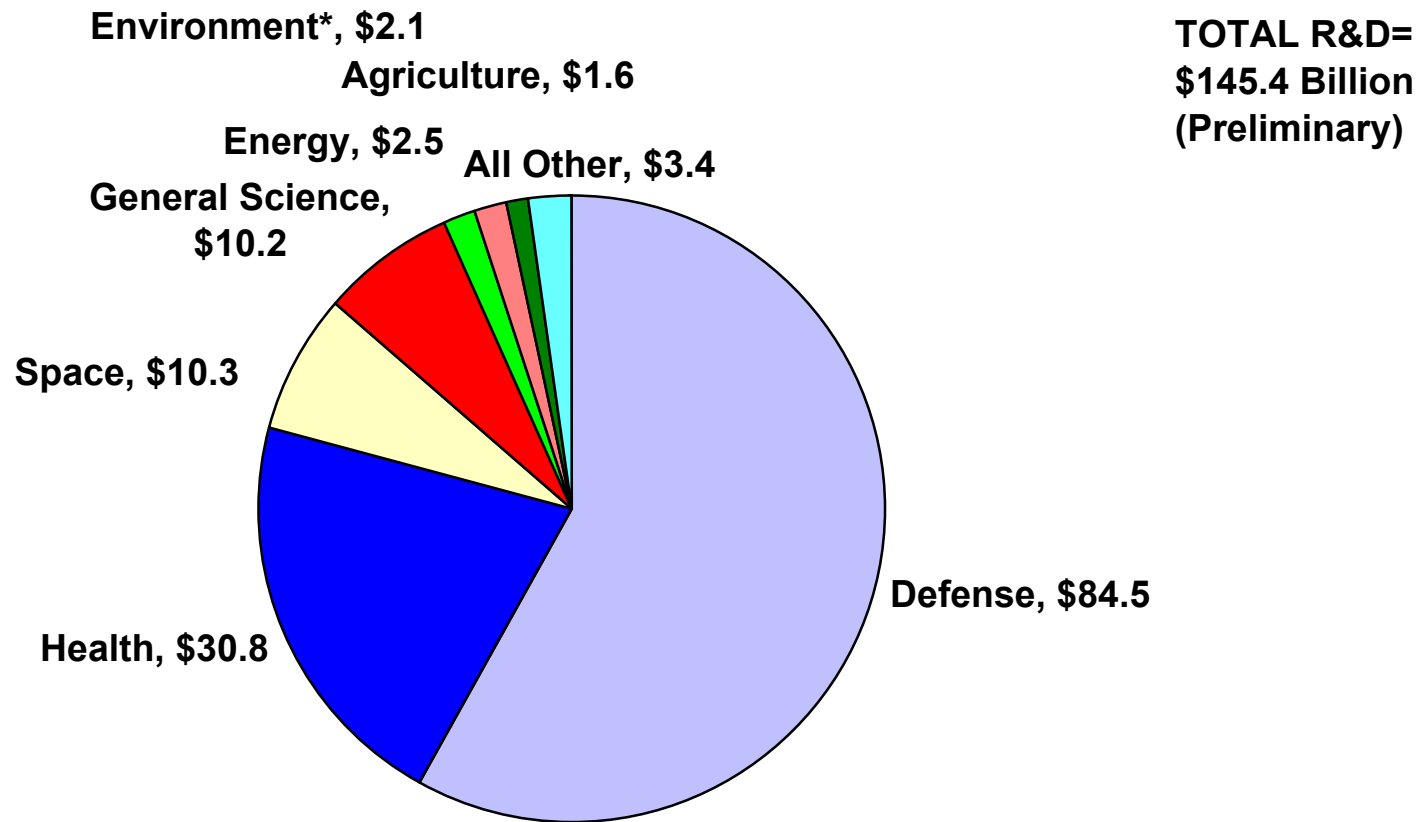
Source: AAAS, based on OMB R&D Budget Data and agency estimates for FY 2009.

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# Major Functional Categories of R&D

FY 2009 President's Budget



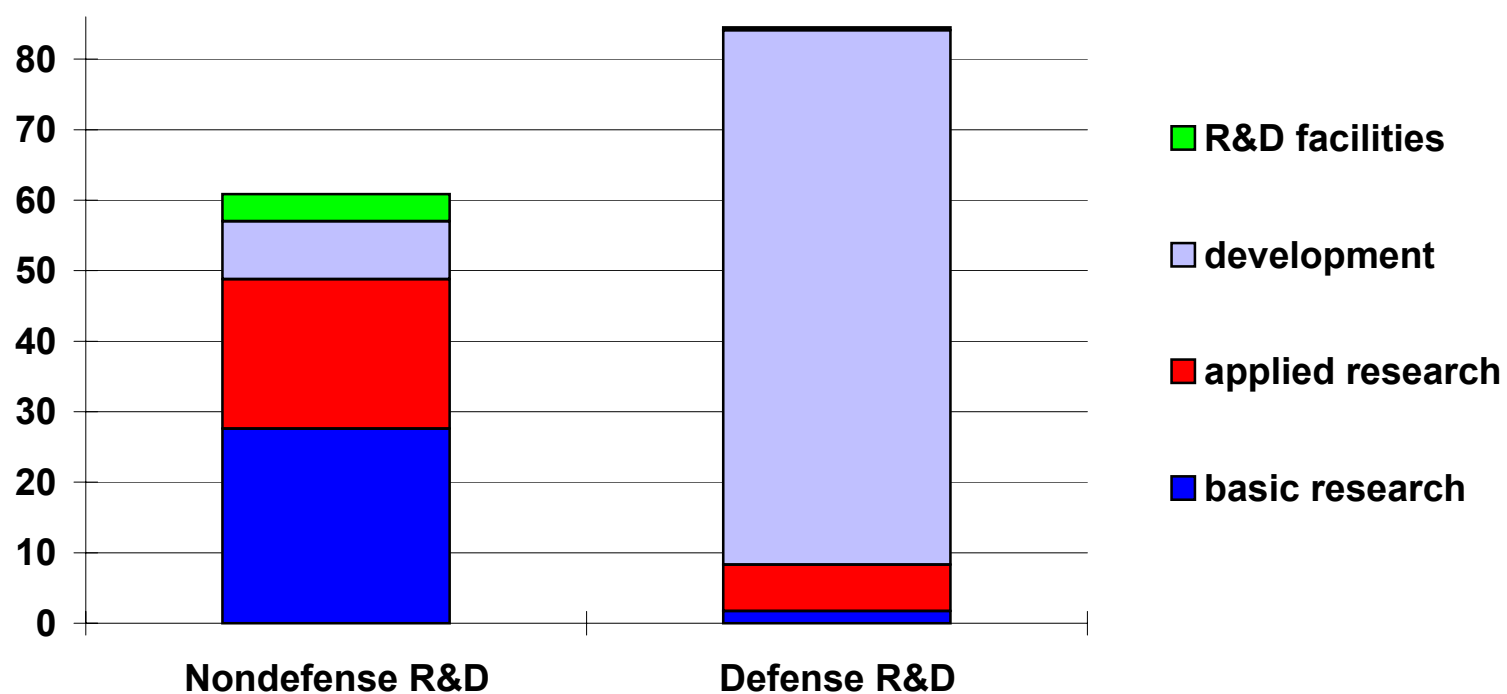
\* - includes natural resources R&D

Source: AAAS, based on OMB and agency budget data.

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## Character of Defense and Nondefense R&D FY 2009 Budget, Budget Authority in Billions



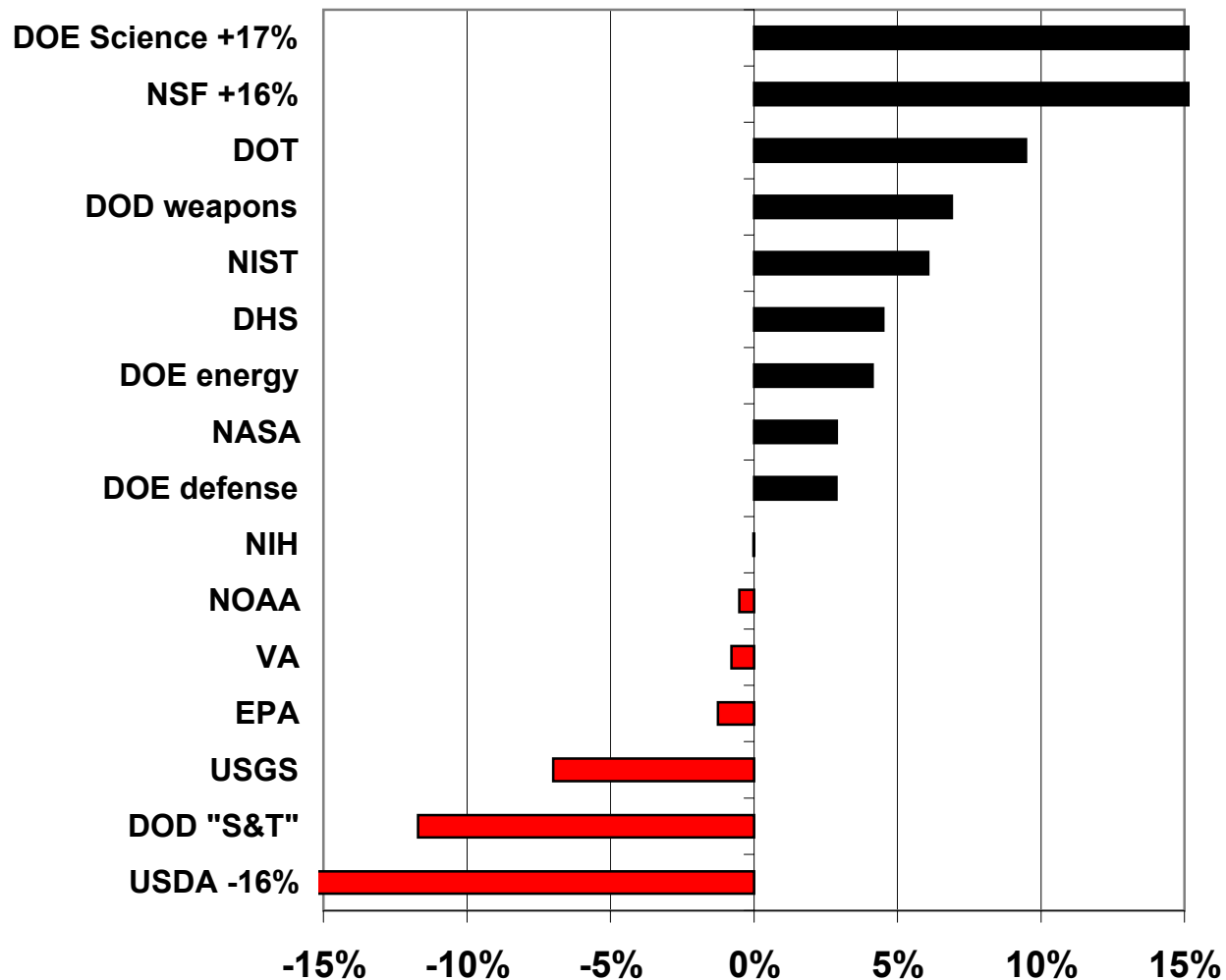
Source: AAAS, based on OMB R&D budget data for FY 2009 and agency budget justifications. Defense R&D = DOD + DOE defense + DHS defense programs.

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## FY 2009 R&D Request (preliminary)

### Percent Change from FY 2008

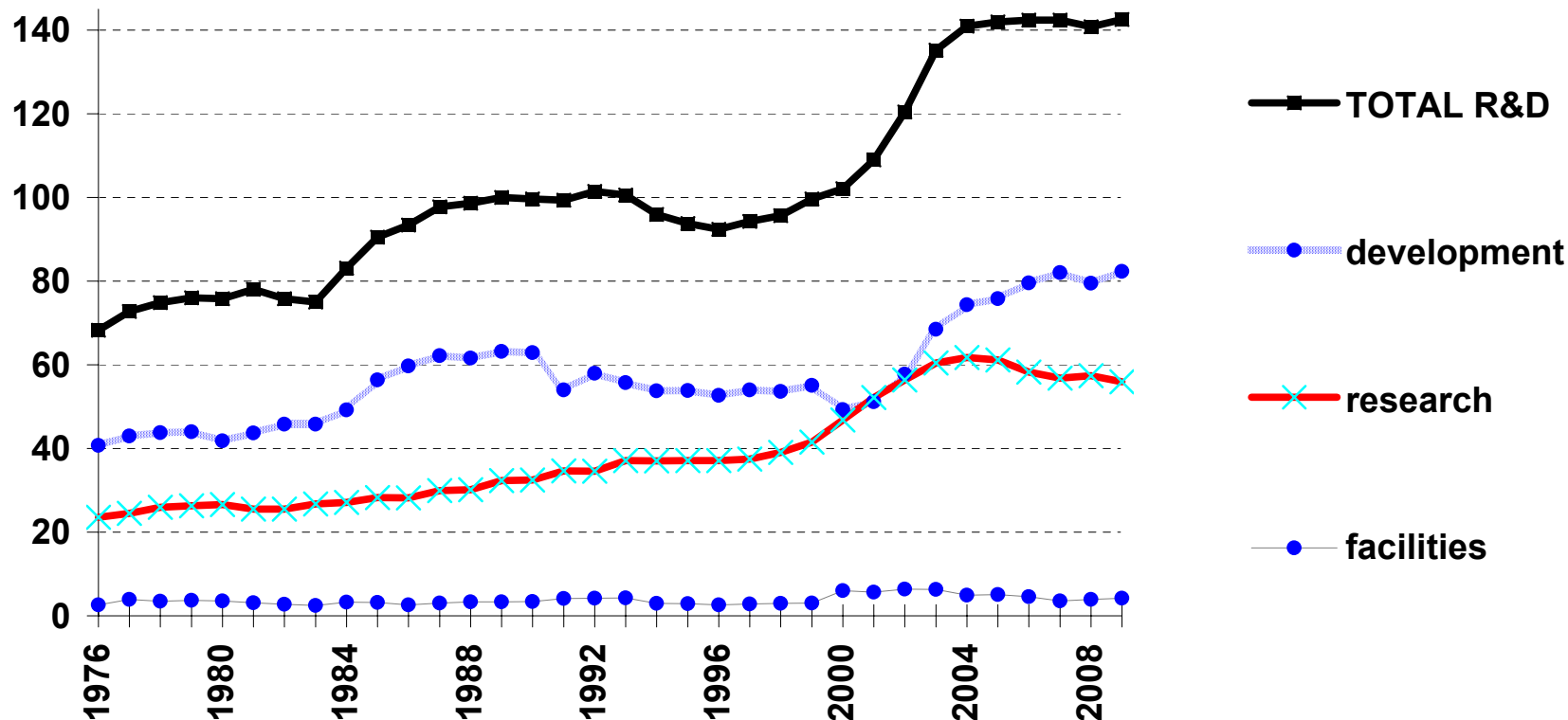


Source: AAAS, based on OMB R&D data and agency estimates for FY 2009.  
 DOD "S&T" = DOD R&D in "6.1" through "6.3" categories plus medical research.  
 DOD weapons = DOD R&D in "6.4" and higher categories.  
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## Trends in Federal R&D, FY 1976-2009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

in billions of constant FY 2008 dollars



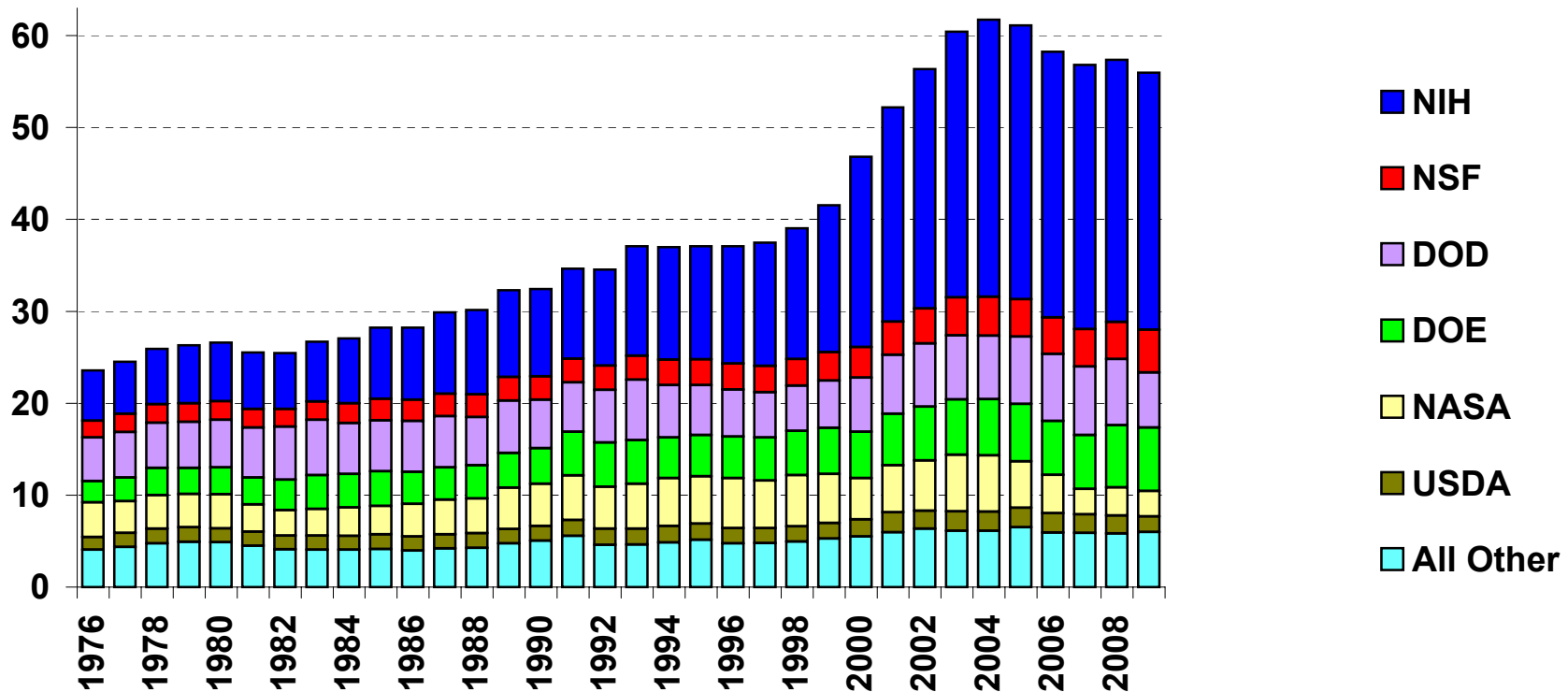
Source: AAAS analyses of R&D in annual AAAS R&D reports. \* FY 2009 figures are latest AAAS estimates of FY 2009 request. R&D includes conduct of R&D and R&D facilities. Data to 1984 are obligations from the NSF Federal Funds survey. GDP figures are from OMB, Budget of the U.S. Government FY 2009.  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

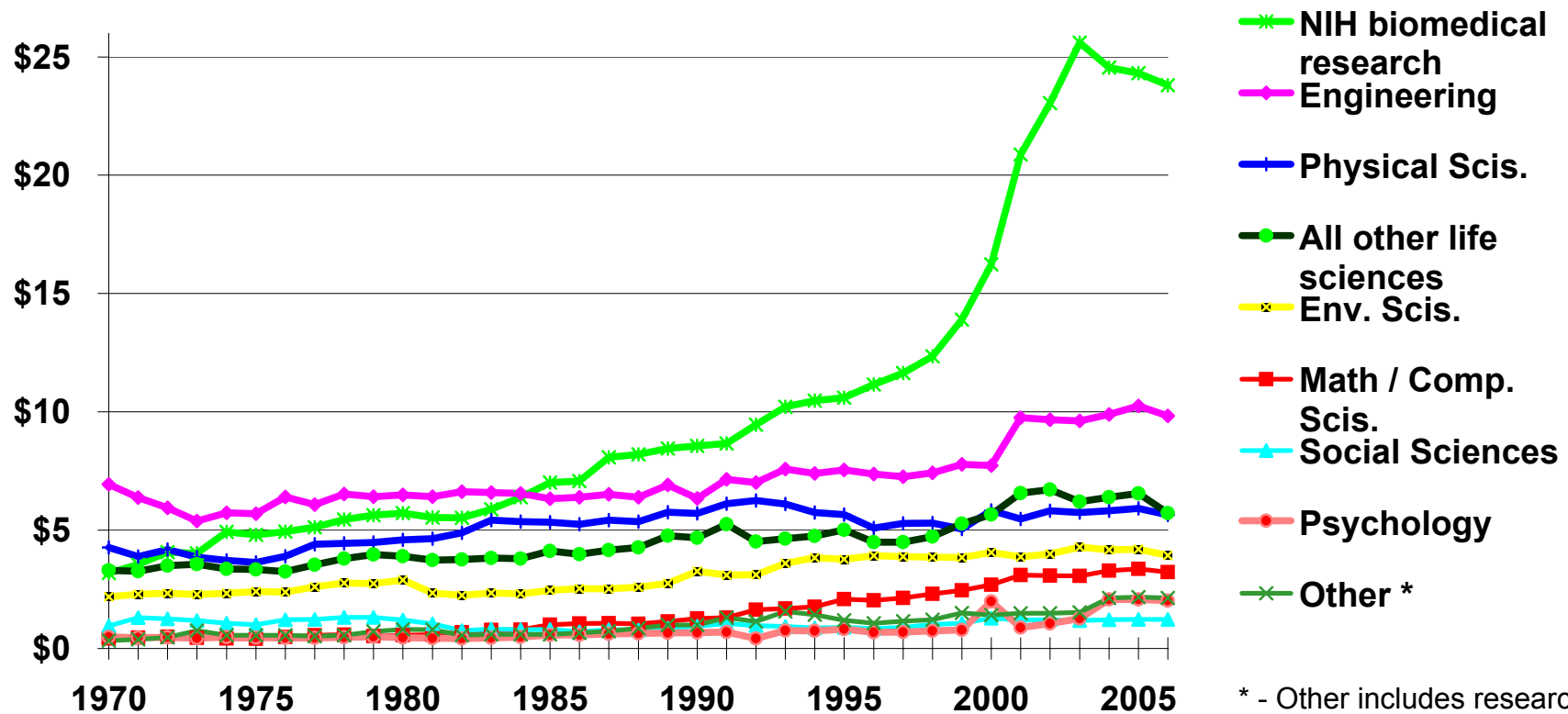
\* FY 2009 figures are latest AAAS estimates of FY 2009 request. Research includes basic research and applied research. 1976-1994 figures are NSF data on obligations in the Federal Funds survey.

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# Trends in Federal Research by Discipline, FY 1970-2006

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)

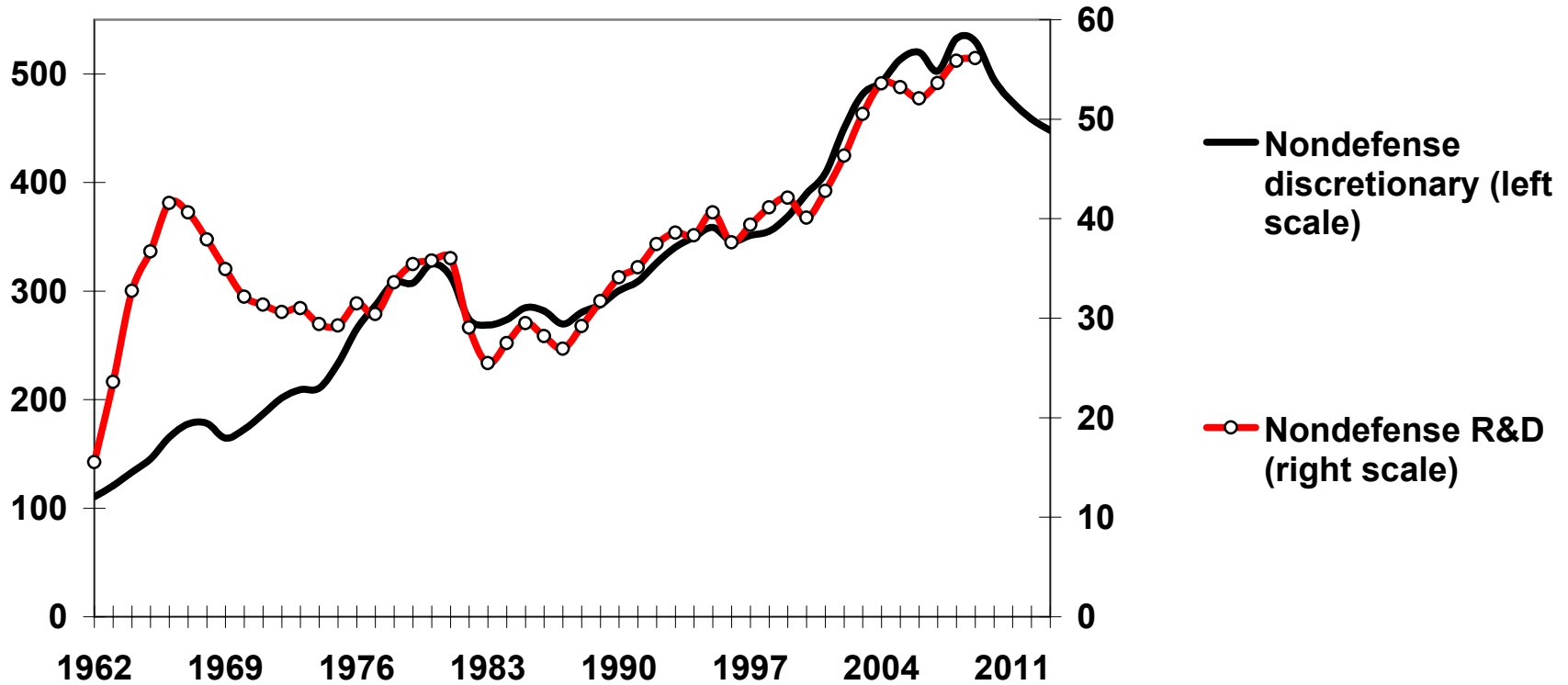
Life sciences - split into NIH support for biomedical research and all other agencies' support for life sciences.

Source: National Science Foundation, *Federal Funds for Research and Development FY 2004, 2005, 2006, 2006*. FY 2005 and 2006 data are preliminary. Constant-dollar conversions based on OMB's GDP deflators. FEB. '08 © 2008 AAAS



## R&D and Discretionary Outlays (Nondefense), 1962-2013

in billions of constant FY 2008 dollars

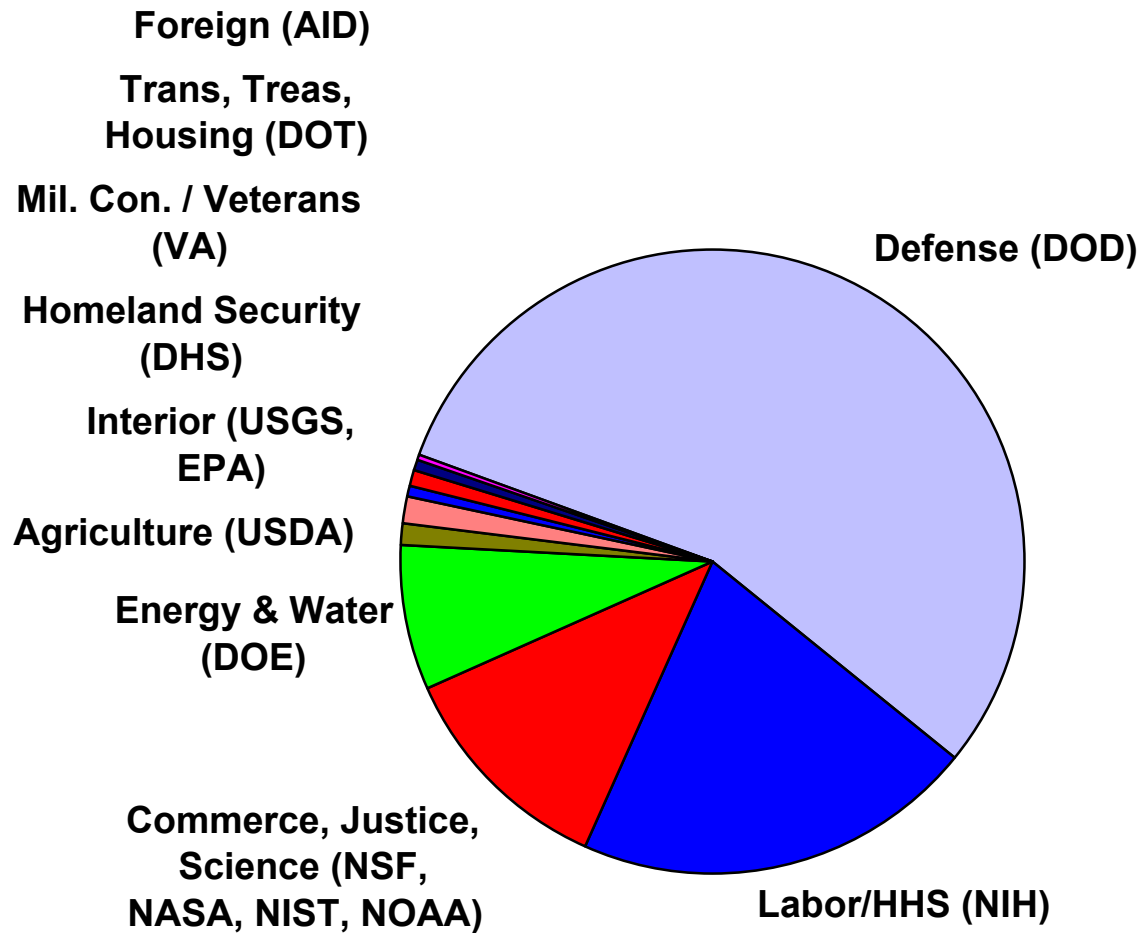


Source: AAAS, based on Budget of the U.S. Government FY 2009 Historical Tables. FY 2008 data are estimates. FY 2009-2013 data are budget projections.  
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# R&D Funding by Appropriations Bill

FY 2009 Request = \$145 billion (preliminary)

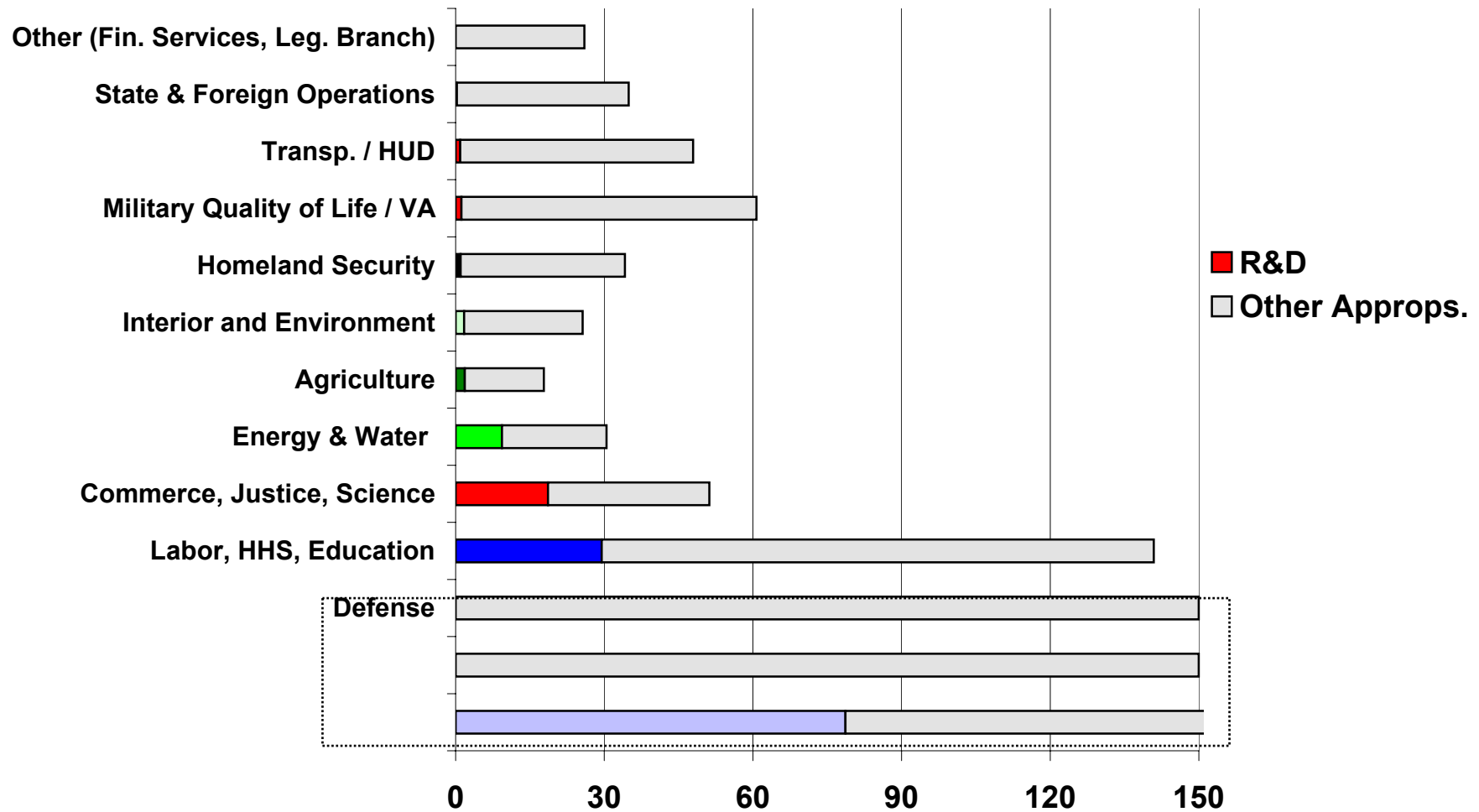


Source: AAAS, based on estimates of R&D in FY 2009 budget.  
Includes conduct of R&D and R&D facilities.  
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# R&D and Non-R&D Funding by Appropriations Bill

FY 2008 Request, Billions of dollars budget authority

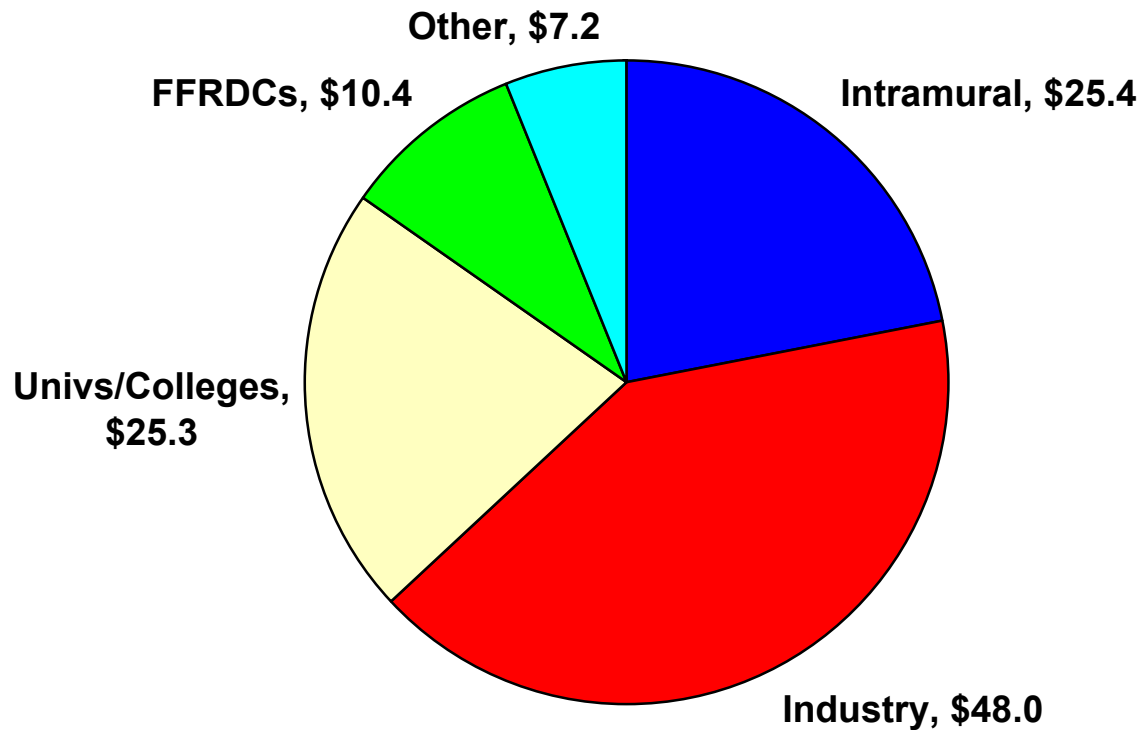


Source: AAAS, based on estimates of R&D in FY 2008 budget and Budget of the U.S. Government FY 2008. Defense bill is in three lines. Includes conduct of R&D and R&D facilities.  
MAY' 07 © 2007 AAAS



## Federal R&D by Performer

FY 2007 obligations (preliminary - \$116 bil.)



\* - Federally funded R&D centers - government-owned, contractor-operated laboratories (national labs).

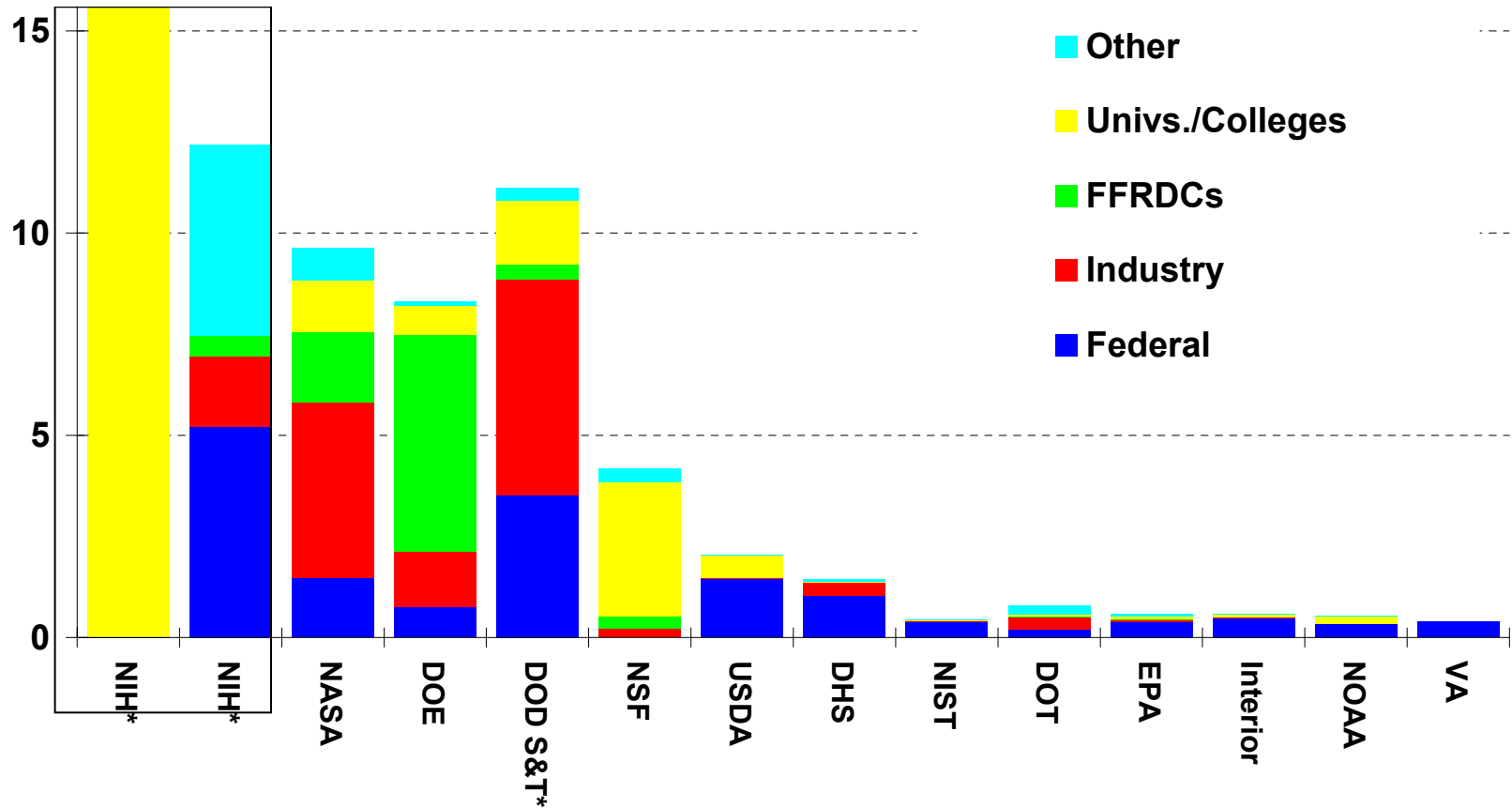
Source: AAAS, based on NSF, Federal Funds for Research and Development, Fiscal Years 2005, 2006, and 2007, 2008. Includes conduct of R&D and R&D facilities. JAN '08 © 2008 AAAS



## Federal R&D by Performer at Selected Agencies

billions of FY 2006 obligations (preliminary)

\* NIH R&D - \$27.9 billion.  
Shown as two bars.

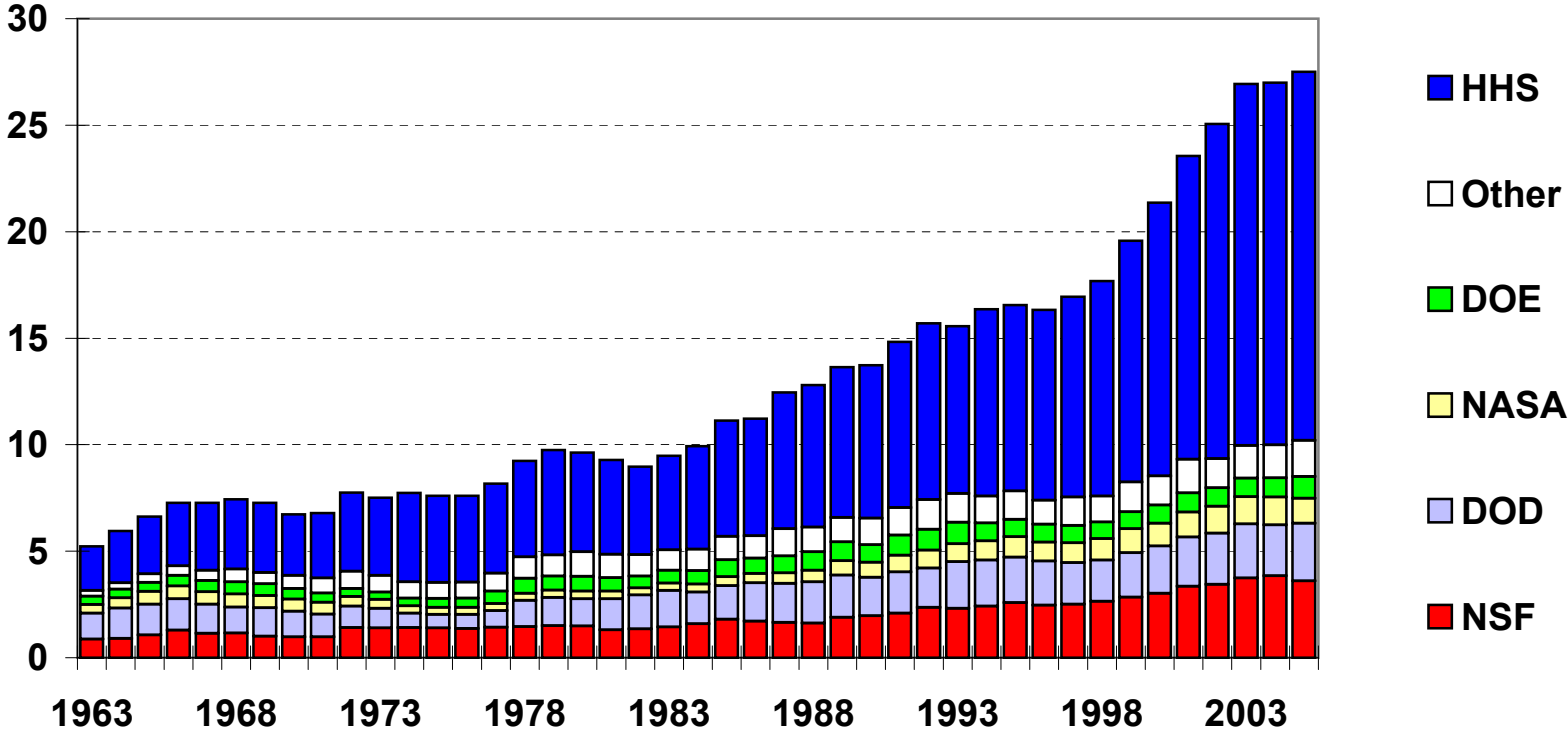


Source: AAAS, based on NSF, Federal Funds for Research and Development, Fiscal Years 2004, 2005, and 2006, 2006. R&D includes research, development, and R&D facilities. \* - DOD R&D in "6.1" through "6.3" categories.  
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# Federal R&D Funding to Colleges 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.

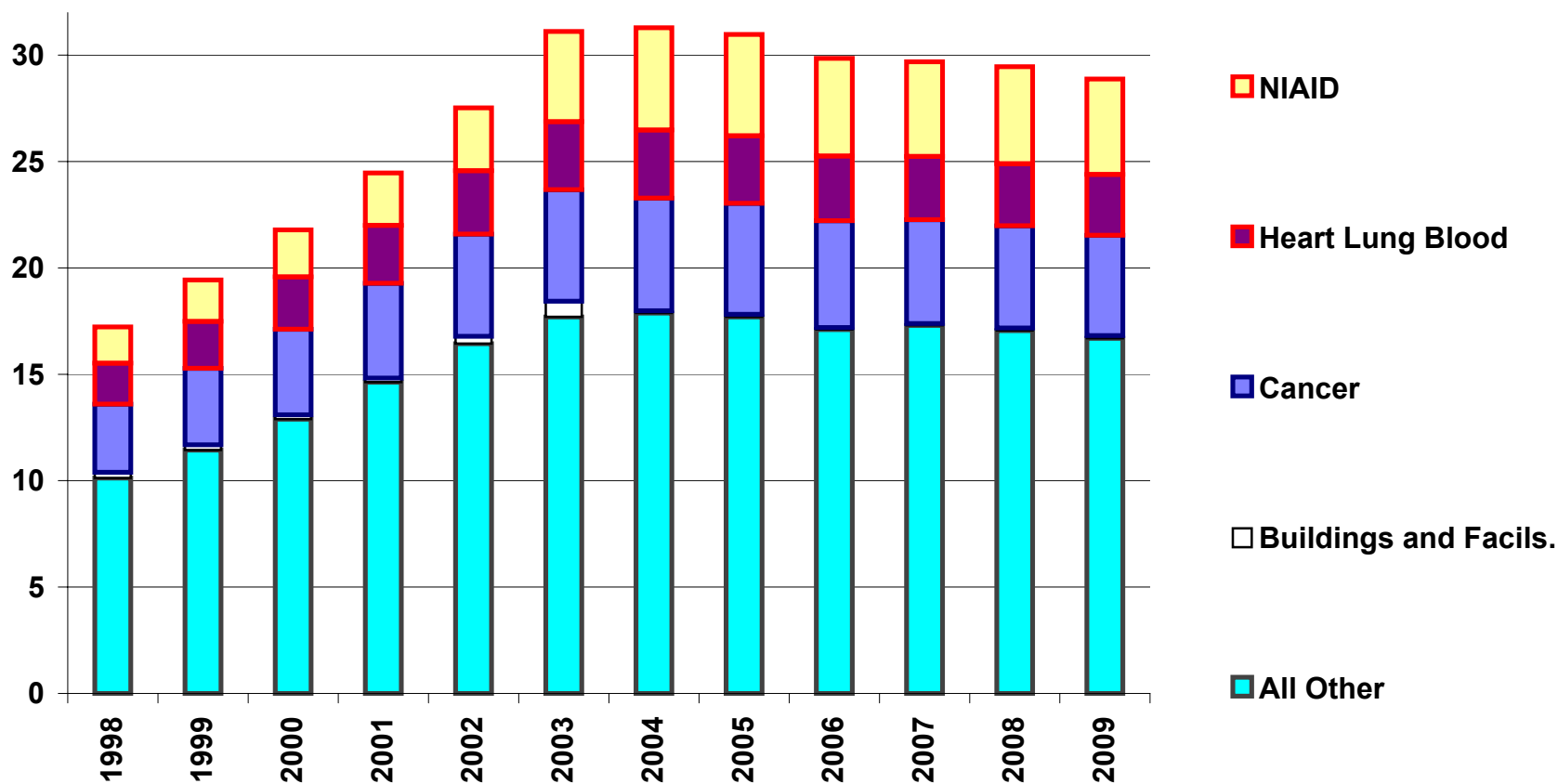
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## National Institutes of Health Budget by Institute, 1998-2009 \*

(budget authority in billions of constant FY 2008 dollars)

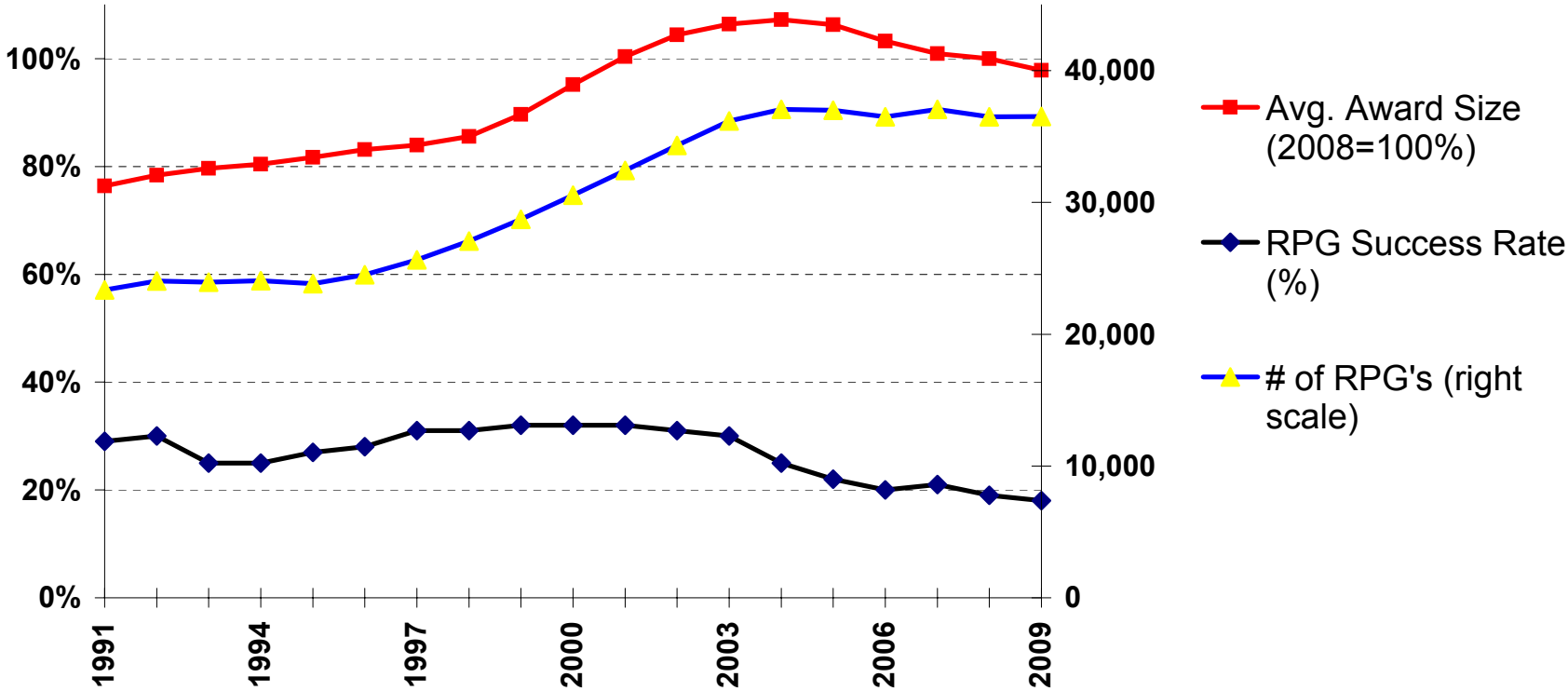


Source: AAAS R&D reports from NIH budget documents 1998-2009. \* 2009 is latest AAAS estimates of FY 2009 request. Adjusted for inflation using OMB's GDP deflators.

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# National Institutes of Health Research Project Grants

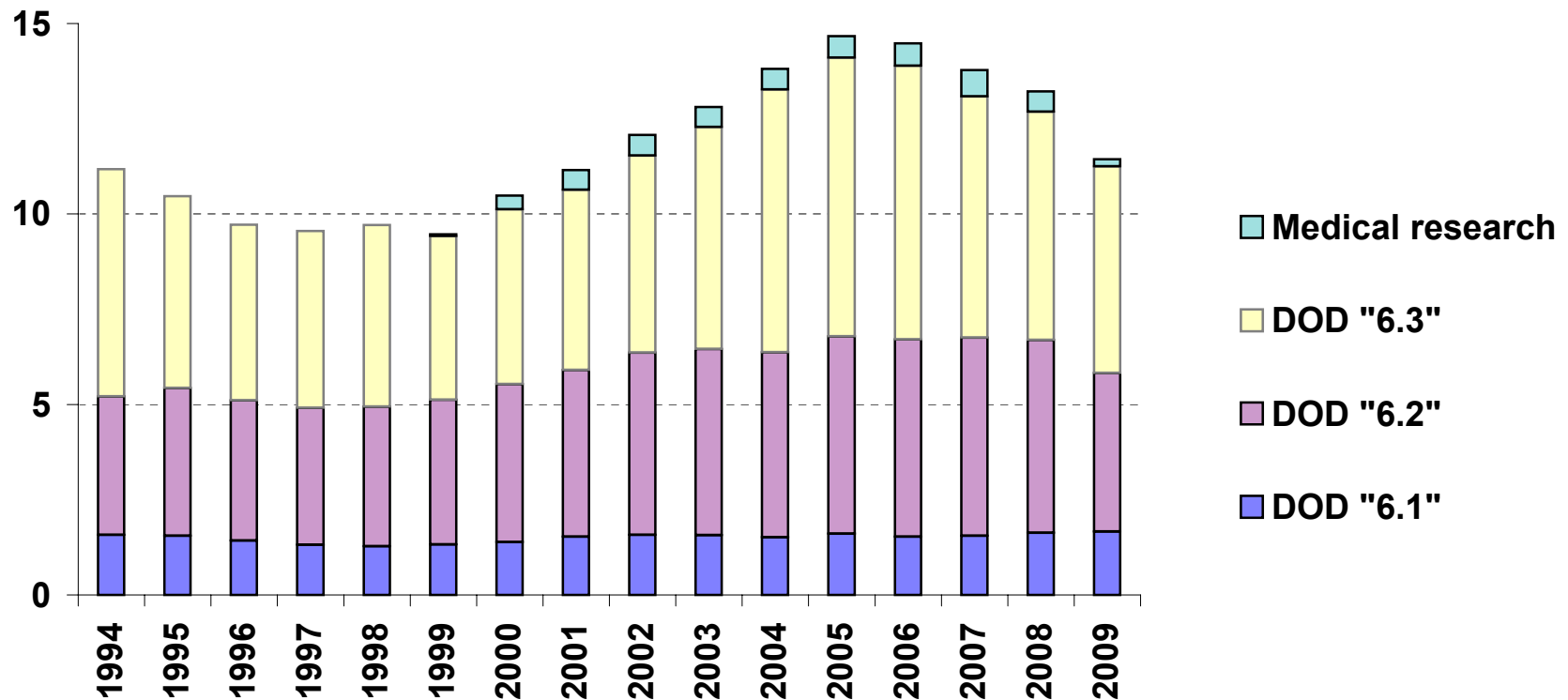


Source: NIH agency budget justification for FY 2009.  
 Average proposed award size \$408,800 in FY 2008. Other  
 years adjusted for inflation.  
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## Trends in DOD "S&T", FY 1994-2009 \*

in billions of constant FY 2008 dollars

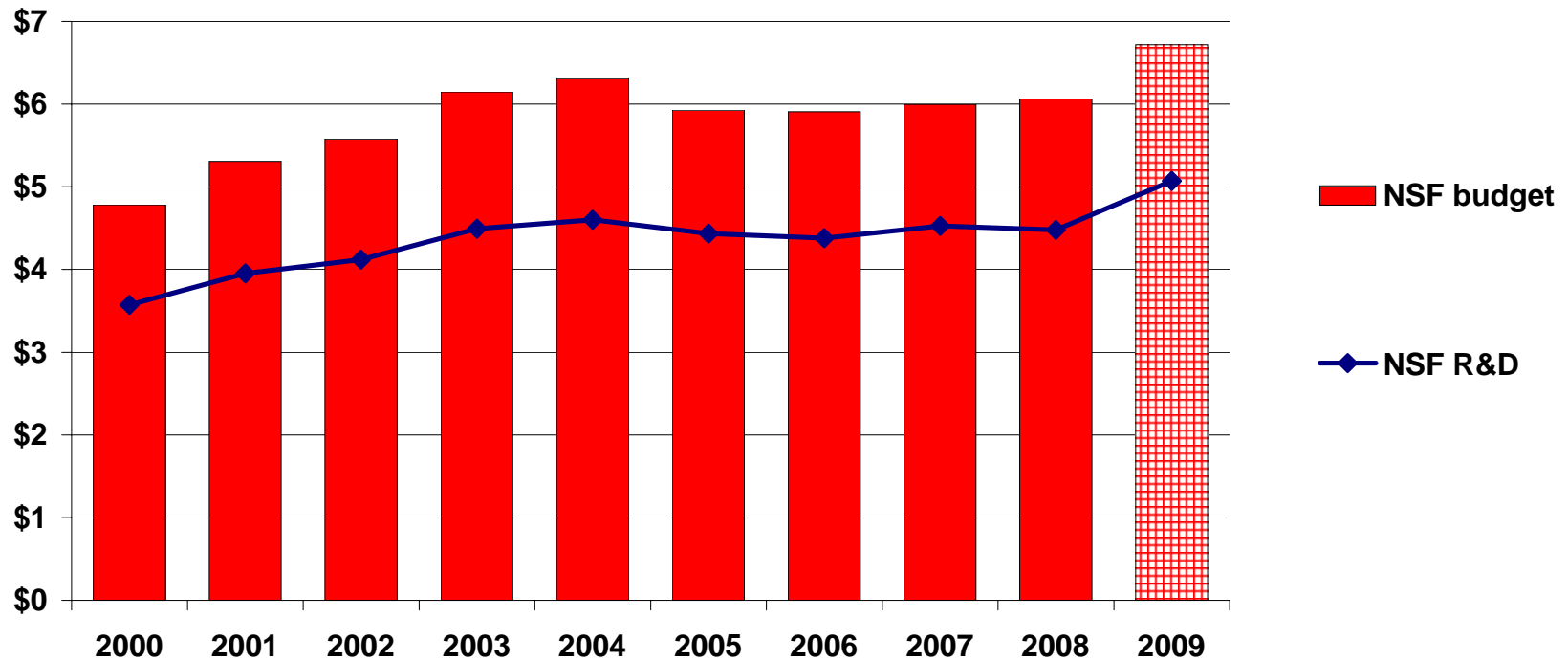


Source: AAAS analyses of R&D in annual AAAS R&D reports.  
 \* - FY 2009 figures are latest AAAS estimates of FY 2009 request.  
 Medical research appropriated outside RDT&E; appropriated in "6.2" accounts before 1999.  
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# National Science Foundation 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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