



The Outlook for U.S. Science and Technology (Budget) Policy: A Bumpy Ride on the Third Rock from the Sun

Joel R. Parriott
Director of Public Policy
American Astronomical Society

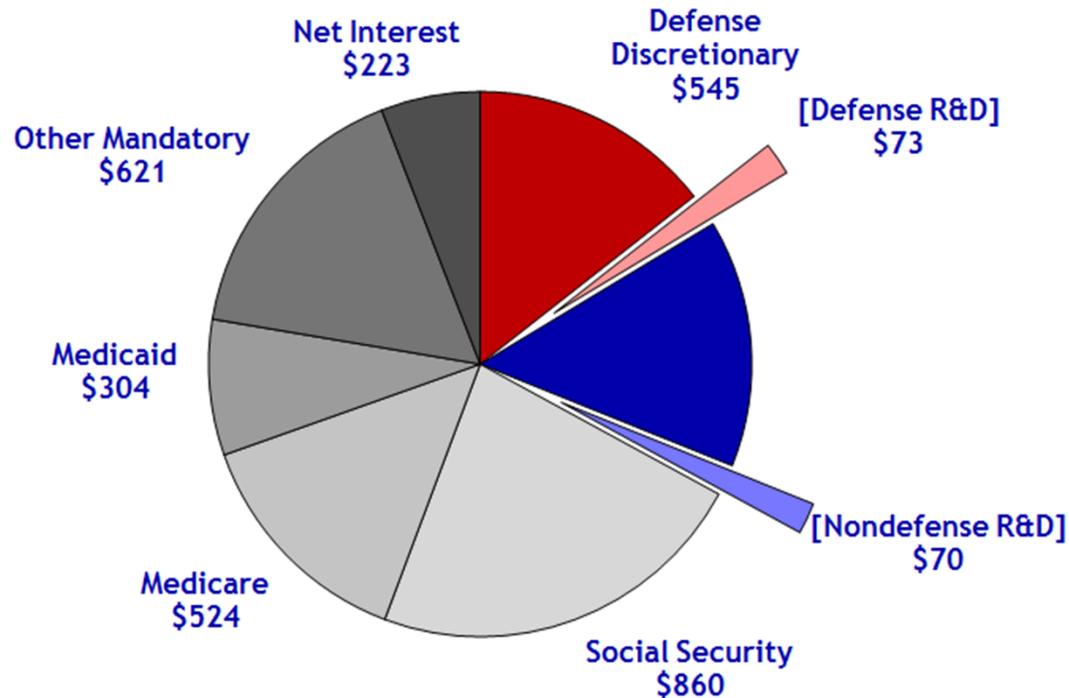


A Bit of Background

Composition of the Proposed FY 2014 Budget

Total Outlays = \$3.8 trillion

outlays in billions of dollars



Source: *Budget of the United States Government FY 2014*.
Projected unified deficit is \$744 billion.
© 2013 AAAS



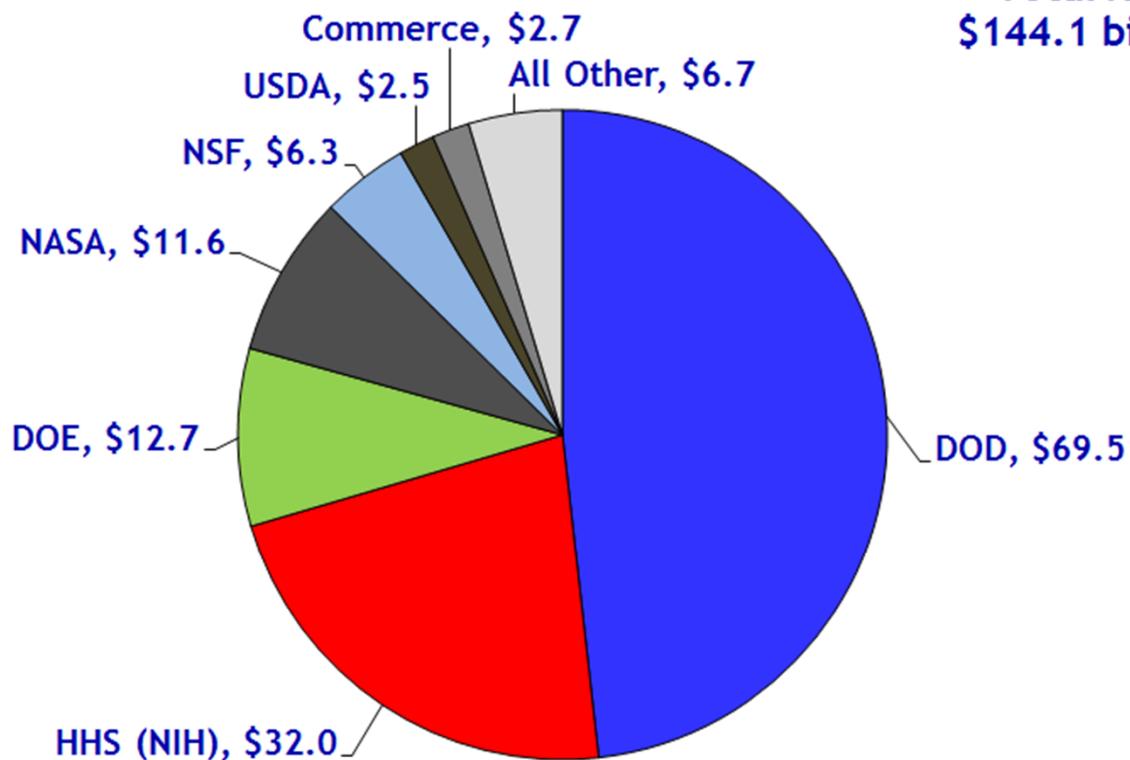
“It helps to think of the U.S. government as an insurance company with an army.”

-- Mike Holland, NYU (when he was at OSTP)

Total R&D by Agency, FY 2014

budget authority in billions of dollars

Total R&D =
\$144.1 billion

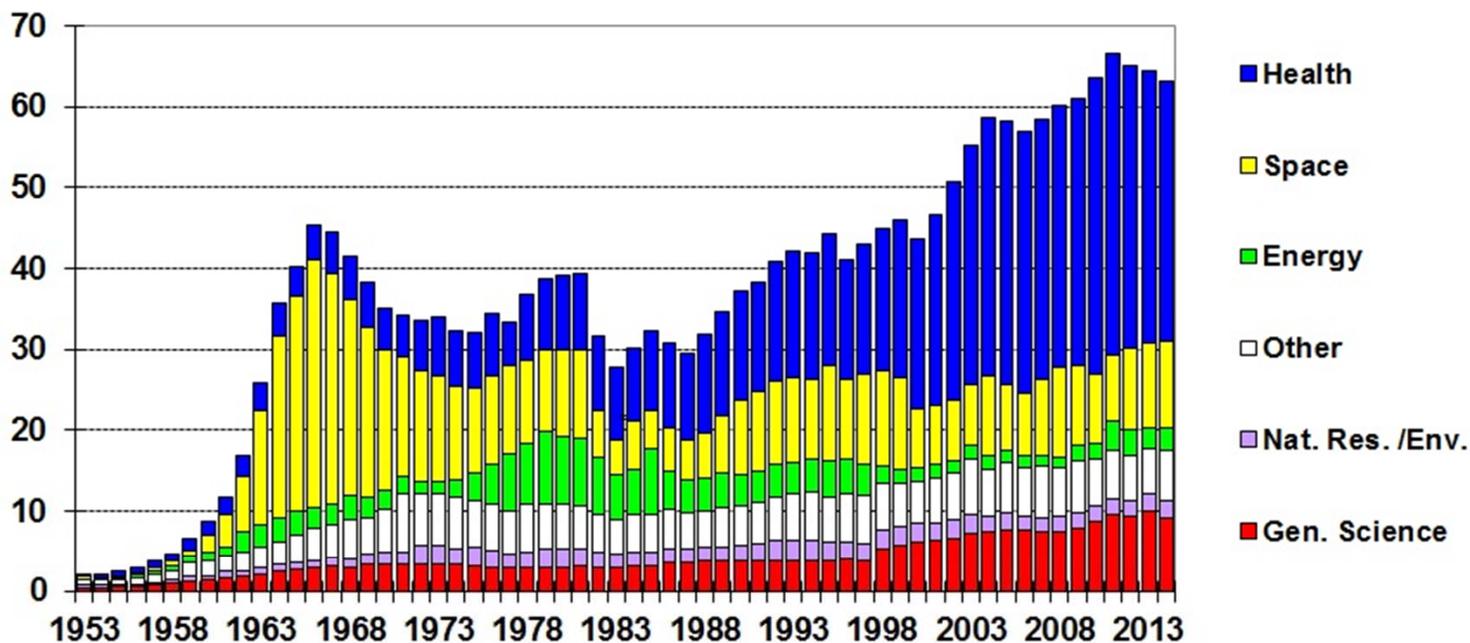


Source: OMB R&D data, agency budget justifications, and other agency documents.
R&D includes conduct of R&D and R&D facilities.
© 2013 AAAS



Trends in Nondefense R&D by Function

outlays for the conduct of R&D, billions of constant FY 2013 dollars

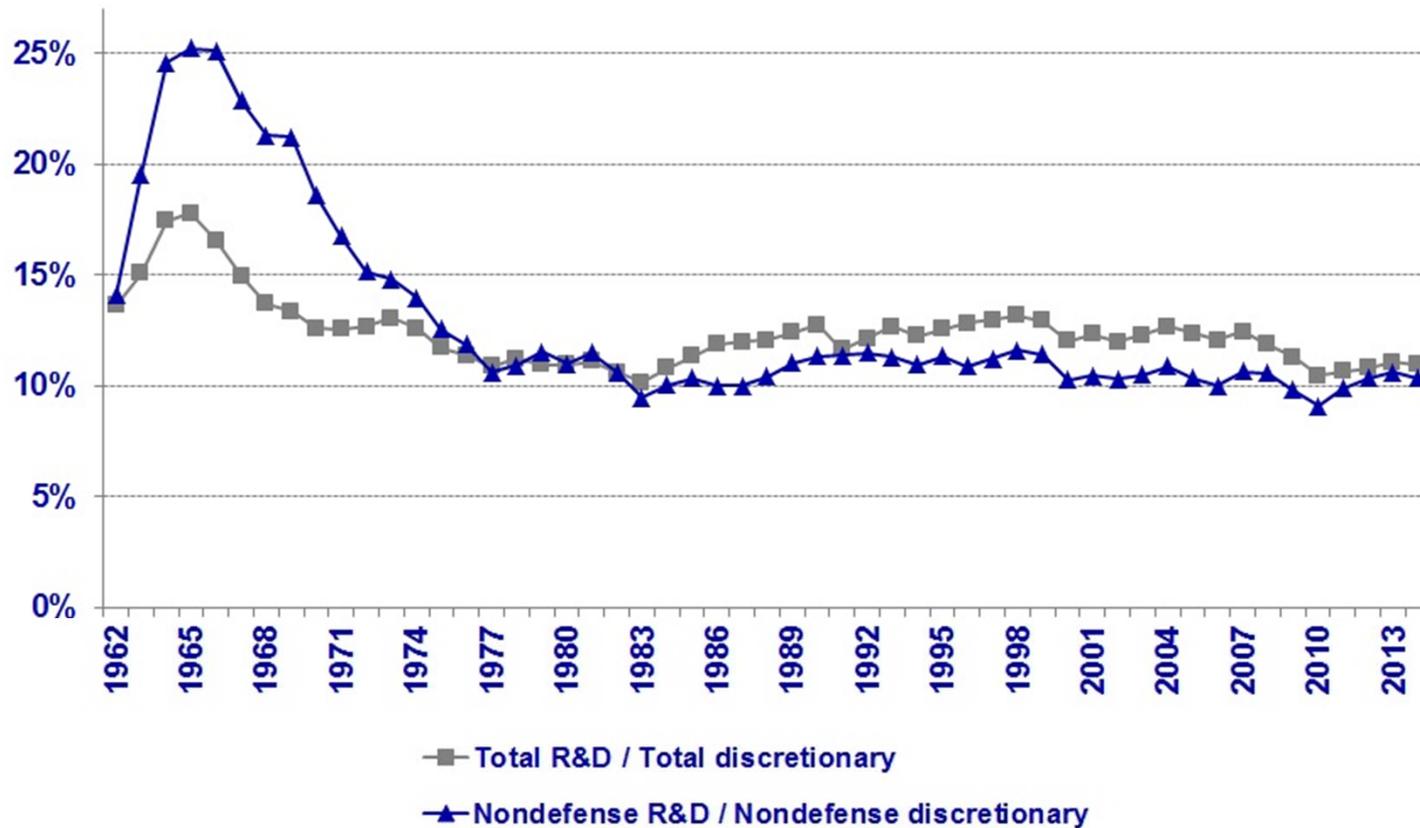


Source: AAAS, based on OMB Historical Tables in *Budget of the United States Government FY 2014*. FY 2014 is the President's request; FY 2013 does not reflect final appropriations or sequestration. Some Energy programs shifted to General Science beginning in FY 1998.
© 2013 AAAS



R&D as Percent of Discretionary Spending

percentage of outlays, 1962 - 2014

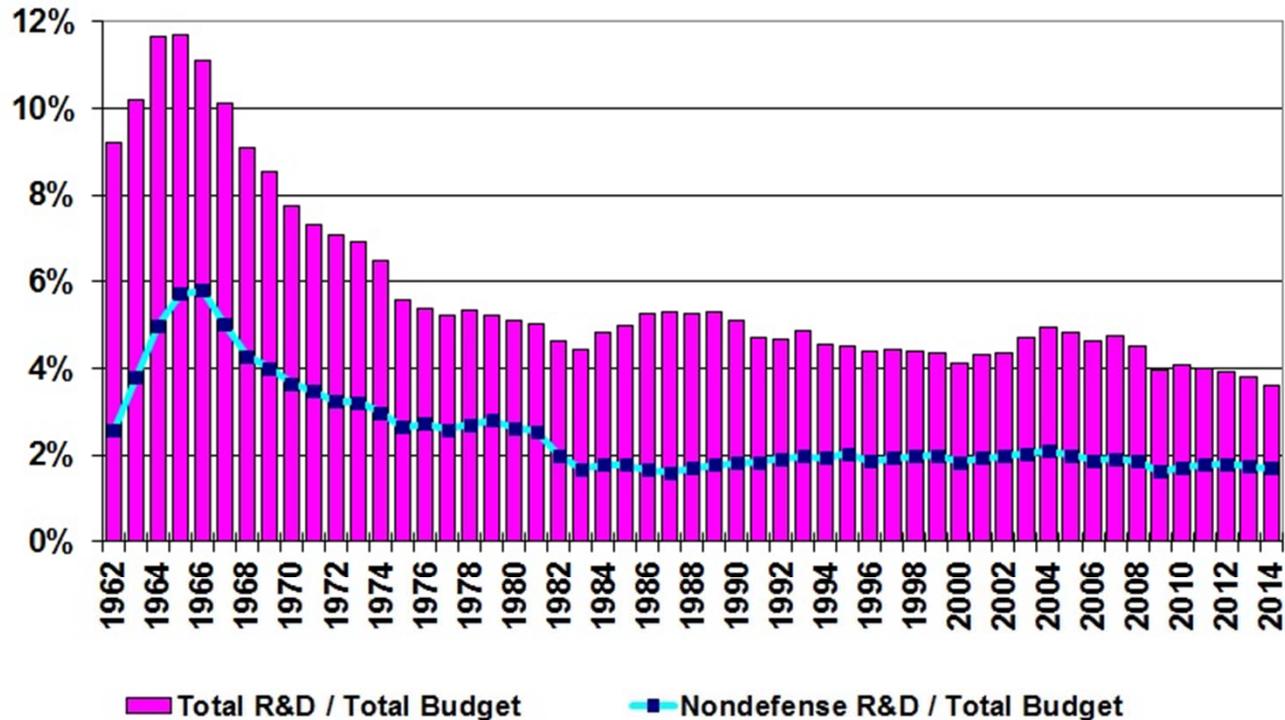


Source: *Budget of the U.S. Government FY 2014*. Note: FY13 figures do not yet reflect final appropriations or sequestration.
© 2013 AAAS



R&D as Percent of the Federal Budget:

FY 1962-2014, in outlays



Source: *Budget of the U.S. Government FY 2014 Historical Tables*. FY 14 is the request. Note: FY13 figures do not yet reflect final appropriations or sequester.
 © 2013 AAAS





Brief Budget 101

How are budgets supposed to work in Washington?

- * Congress authorizes agencies/programs
 - NASA reauthorization happening this Summer
- * President submits budget proposal to Congress first Monday in February
- * Congress agrees on a budget resolution (broad “functions”) by 15 April; not a law
- * Appropriations committees slice/dice this budget to authorized programs in specific agencies by 1 October; President signs 13 appropriations bills into law if in agreement

How are budgets actually “working” in Washington lately?

- * If House & Senate can manage to pass authorizations, they are wildly different
- * President submits budget proposal to Congress at some point
- * House and Senate can't agree on overall budget: discretionary off by ~\$90 billion in FY14
- * Appropriations committees may draft bills, but many won't make it to floor for vote
- * Status quo continuing resolutions lasting for 3-6 months in each fiscal year, usually leading to massive omnibus appropriations bills

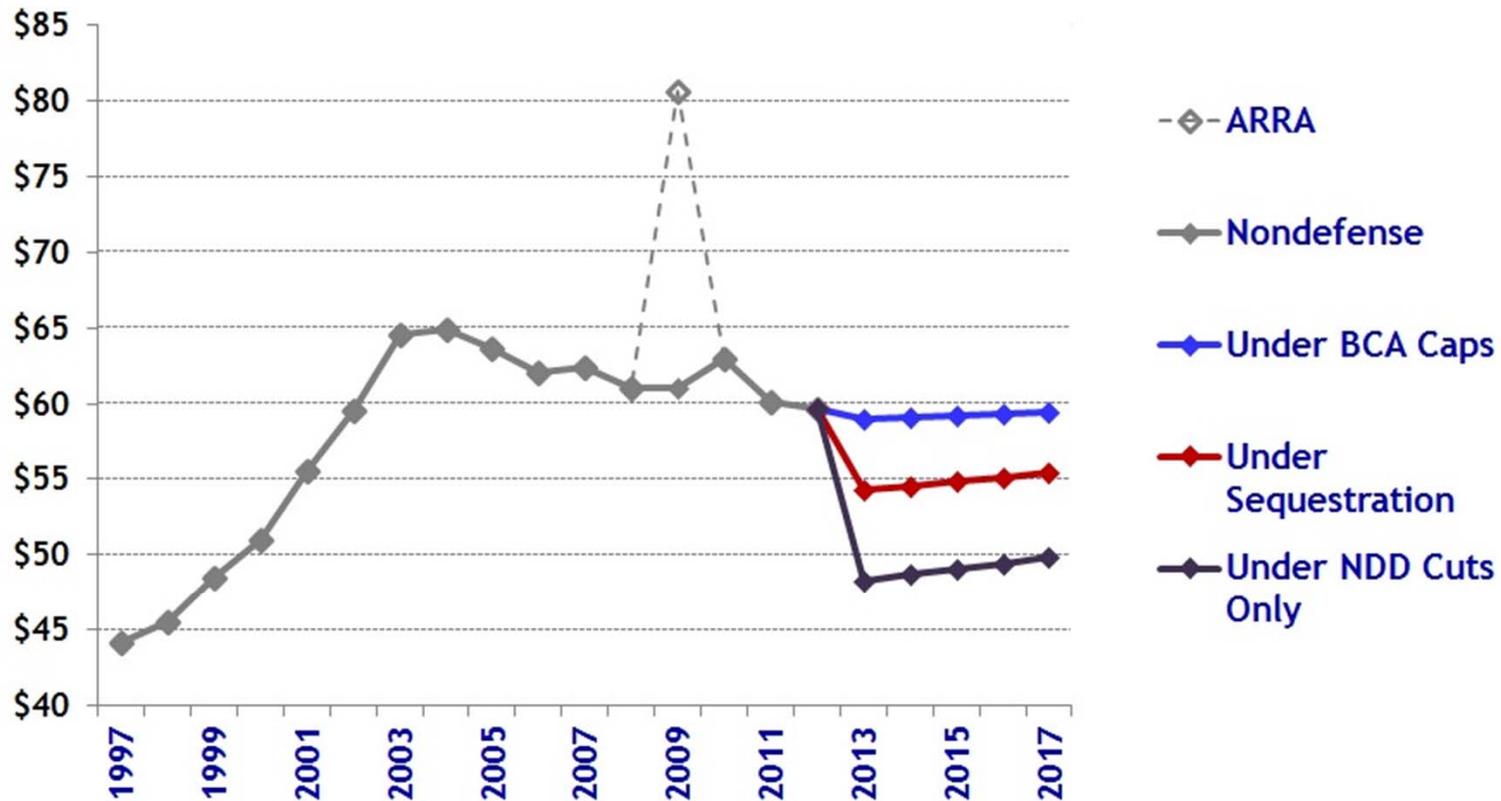
AA
S

Fiscal crises are the new normal

- * U.S. debt limit showdowns (next one this Fall)
- * Government shutdowns?
- * 2011 Budget Control Act (BCA) → caps & sequester through 2021
- * House budget much lower than BCA for everything but defense
- * Senate budget close to President's request
- * Grand bargain nowhere in sight

Federal Nondefense R&D Under BCA Caps With and Without Sequestration

in billions of constant FY 2012 dollars

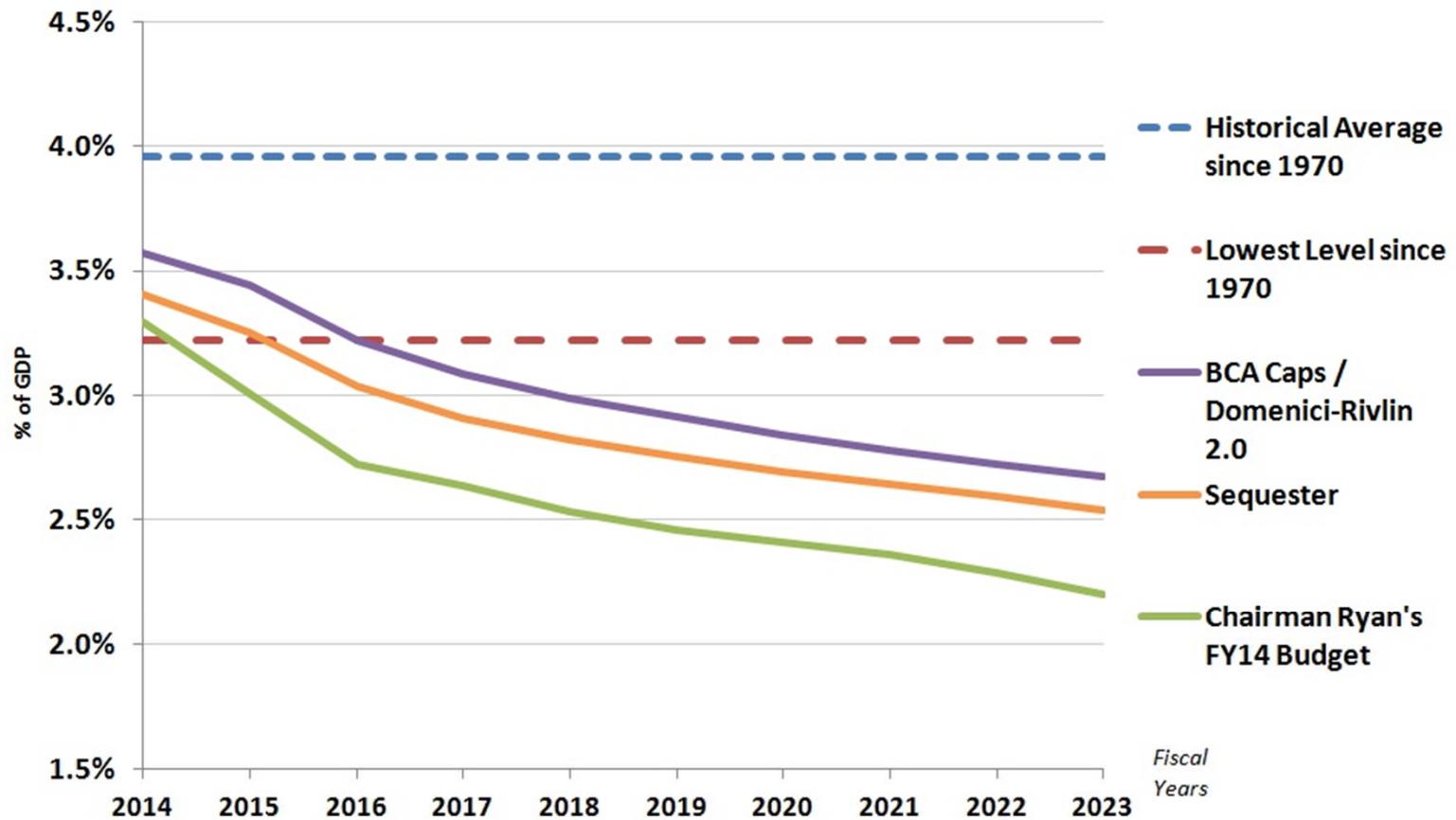


Source: Based on AAAS estimates of R&D funding and the FY 2013 budget, and CBO analyses of the Budget Control Act.

© 2012 AAAS



NON-DEFENSE SPENDING UNDER VARIOUS BUDGET PATHS



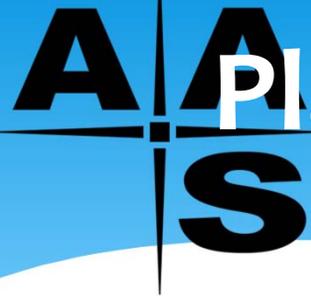
Sources: Congressional Budget Office, Chairman Ryan's Fiscal Year 2014 Budget Resolution, BPC Projections

WWW.BIPARTISANPOLICY.ORG





But what about us?



Planetary Science at NASA

- * Unresolved disagreement between Administration and Congress on scope/scale of U.S. planetary program since FY13 budget request released
 - Many policy issues such as Europa, Mars 2020 Rover, program balance
 - Outyear funding profile continues to change
- * New and growing disagreement over NASA SMD education and public outreach programs



Funding Uncertainty

2013

- * Congress passed \$1.4B, which would be \$1.3B after sequester and rescission (\$0.1B above Pres Bud)
- * Leaks indicate \$1.2B in operating plan

2014

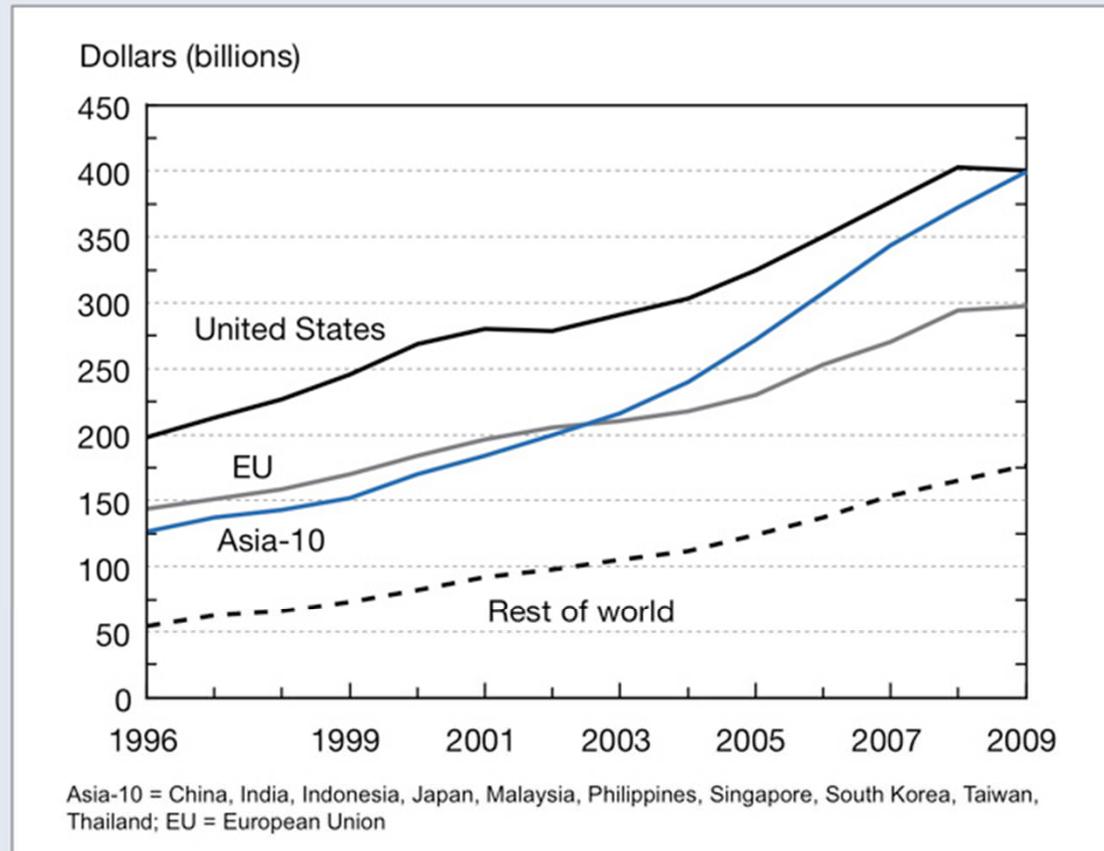
- * President proposed \$1.2B again
- * House & Senate unlikely to accept, but House appropriators don't have much \$ to go around
 - House CJS: \$170M below FY13 and \$4.3B below Pres Bud
 - Senate CJS: \$5.2B above FY13 and \$260M above Pres Bud



International competition vs International collaboration

- * Competition rhetoric from USG officials
 - Spending increases in Southeast Asia
 - Math/science student test scores in U.S.
- * International collaboration has and will continue to be a vital element of the S&T enterprise (e.g., BepiColombo)
- * USG conference scandals came at the same time as travel budget cuts → makes participation in foreign meeting/conferences increasingly difficult

R&D expenditures for United States, EU, and 10 Asian economies: 1996–2009

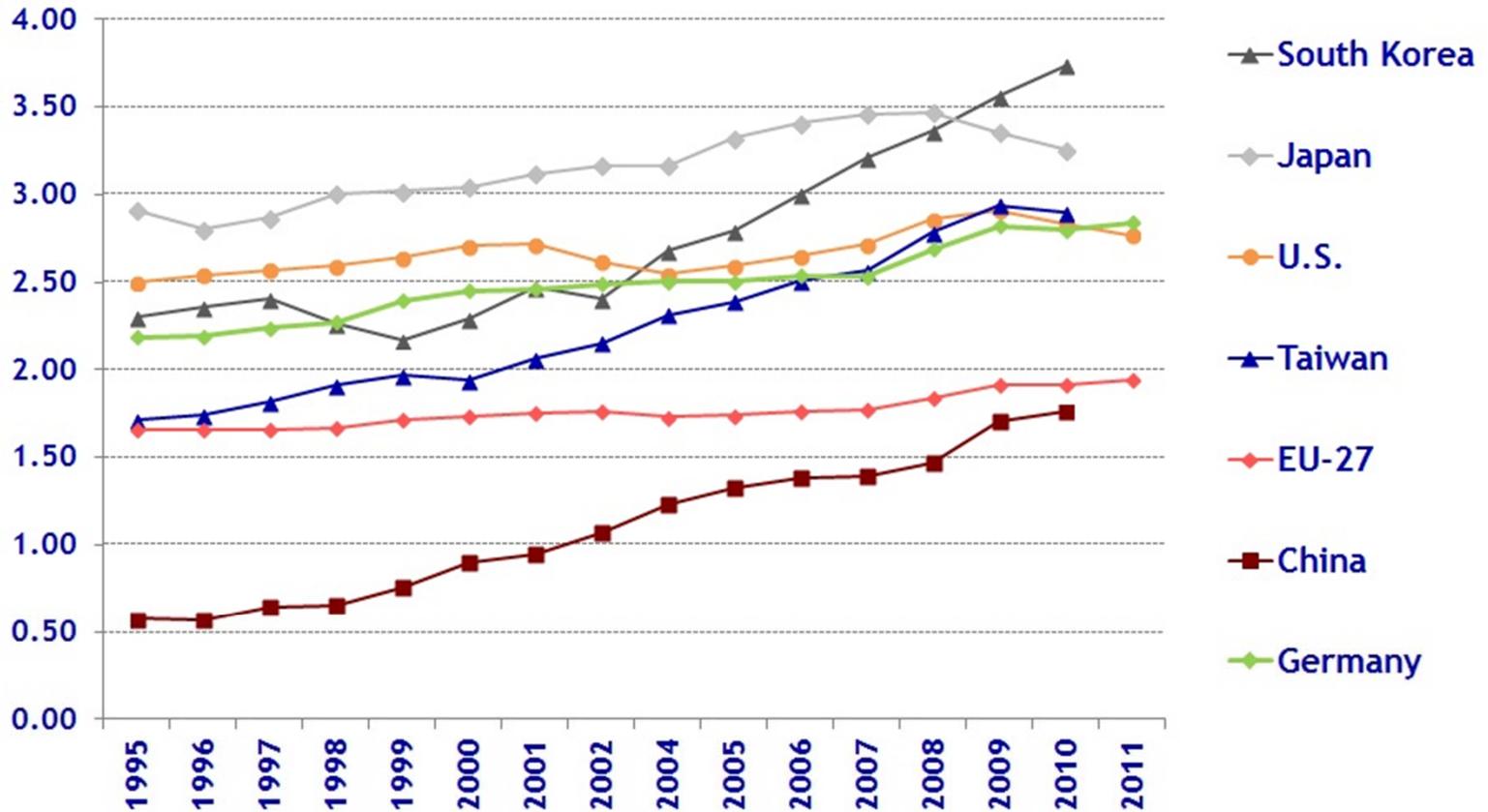


SOURCE: National Science Board, *Science and Engineering Indicators 2012*



National R&D Investment

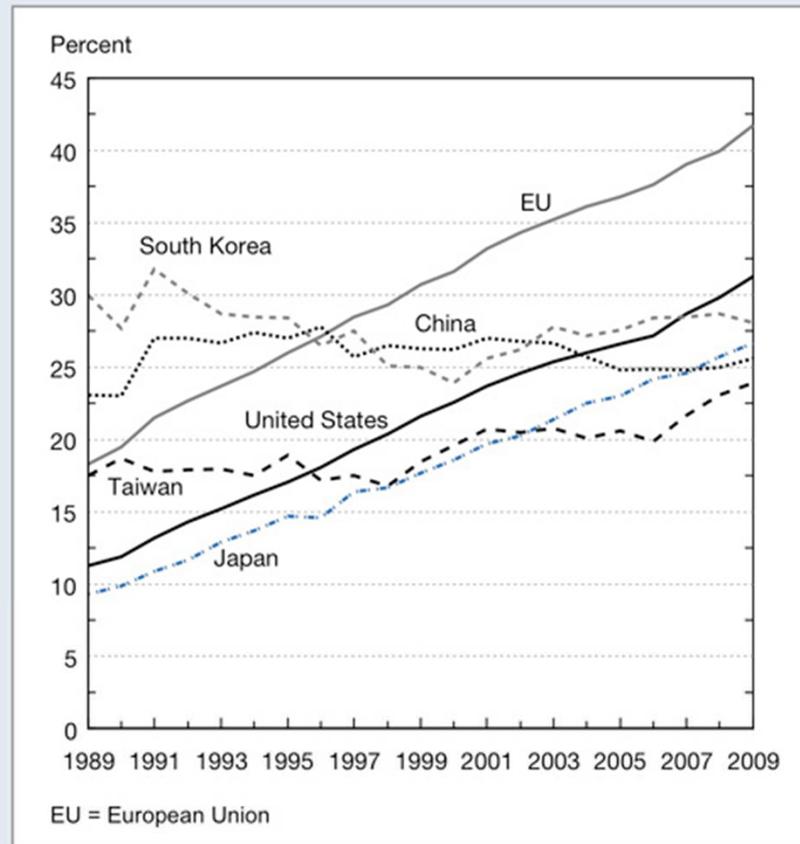
percent of GDP



Source: OECD, Main Science and Technology Indicators 2012.
 2011 data not available in all cases.
 © 2013 AAAS



Research articles with international coauthors, by selected region/country/economy: 1989–2009



SOURCE: National Science Board, *Science and Engineering Indicators 2012*





Other International issues

- * Trans-Atlantic envy: multiyear, treaty-level stability
- * Trans-Pacific envy: long-term strategy and dramatic growth in R&D budgets
- * Immigration reform in the U.S.
 - Lots of support for high-skilled workers (H1B)
 - Visa processing for visiting scientists/students?

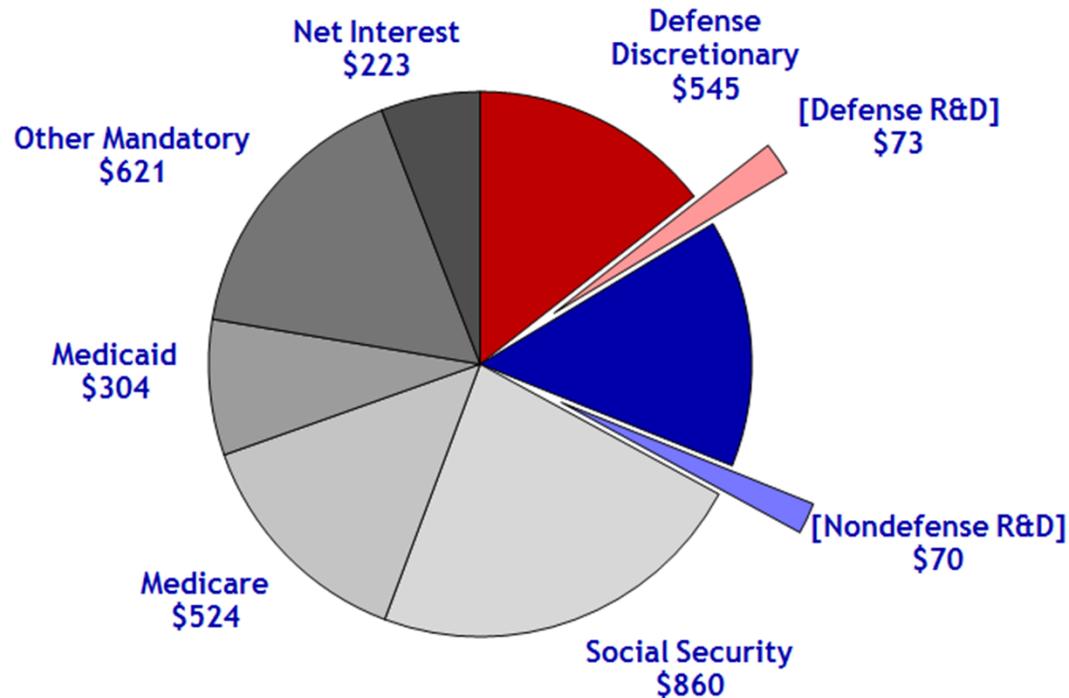


Advocacy

Composition of the Proposed FY 2014 Budget

Total Outlays = \$3.8 trillion

outlays in billions of dollars



Source: *Budget of the United States Government FY 2014*.
Projected unified deficit is \$744 billion.
© 2013 AAAS

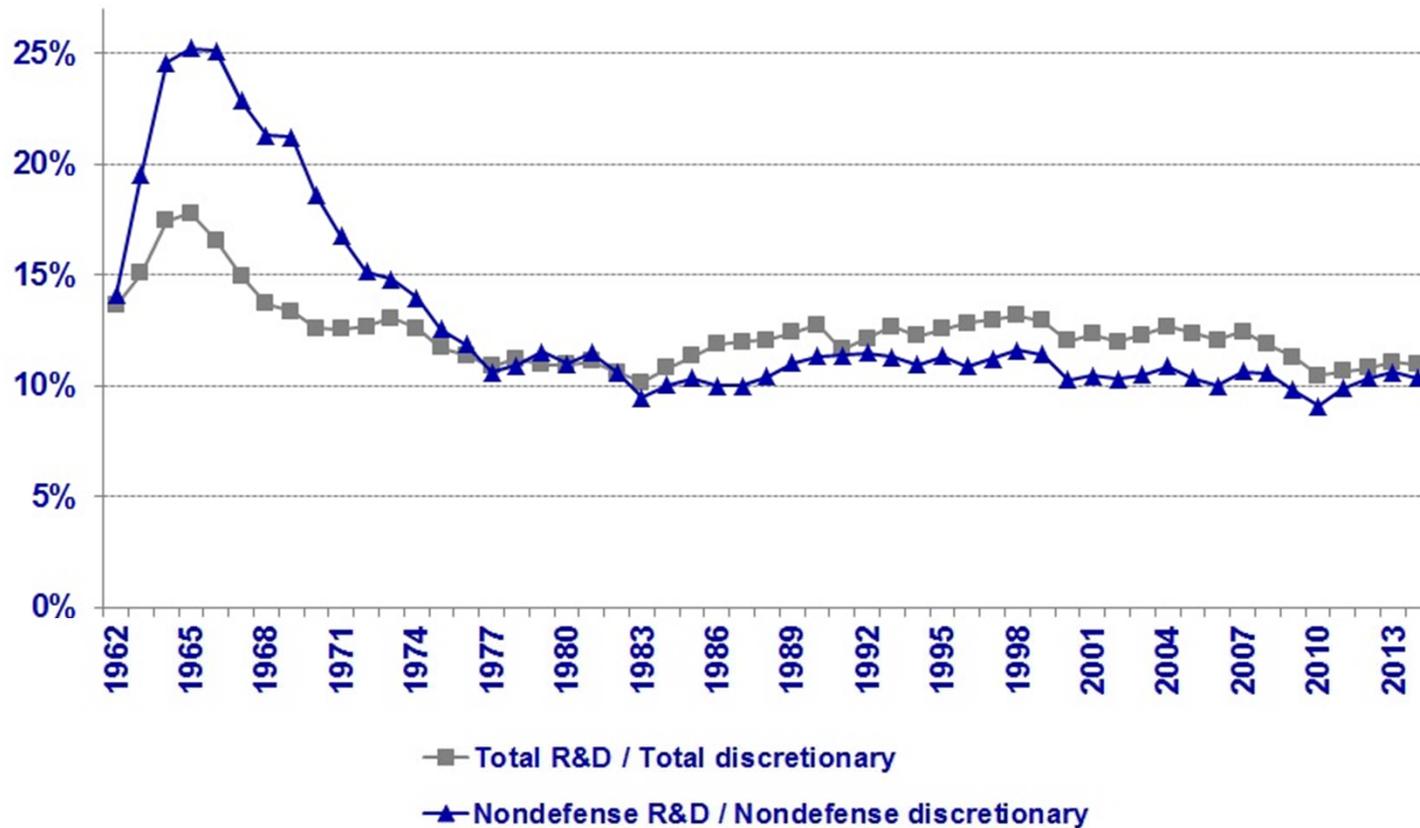


“It helps to think of the U.S. government as an insurance company with an army.”

-- Mike Holland, NYU (when he was at OSTP)

R&D as Percent of Discretionary Spending

percentage of outlays, 1962 - 2014



Source: *Budget of the U.S. Government FY 2014*. Note: FY13 figures do not yet reflect final appropriations or sequestration.
 © 2013 AAAS



A | **A** **S** Coalition of coalitions

- * Non-defense discretionary (NDD) United
 - 3,000 organizations/associations: extremely broad, including health, environment, children, R&D, etc.
- * Fought and lost sequester fight
- * Advocates for balanced approach to long-term deficit reduction that doesn't focus solely on NDD

AAS We've got a great product!



Credit: Leslie Mullen

Need to translate this enthusiasm into influential support!



Difficult Message from a Friend of Science and Technology

“Congress is not besieged by groups asking for money that they describe as necessary to help their own narrow interests in the short run. The argument that science funding is a long-term national investment does nothing to set scientists apart. All that sets you apart is that scientists are the only group that thinks they're making a unique argument.”

- Sherry Boehlert, Former Chairman of the House Science Committee, in a speech delivered in March 2004 (<http://www.aip.org/fyi/2004/032.html>)