The Federal R&D Budget: Process and Perspectives

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AAAS R&D Budget and Policy Program
http://www.aaas.org/spp/rd
The Federal Budget is Kind Of a Big Deal

- “Politics is who gets what, when, and how.”
  - Put another way: budgeting is a manifestation of politics
  - The Budget is also a roadmap
- The primary way Congress directs U.S. policy
- Major impact for R&D and innovation: most basic research, and most university research, is federally funded
Figure 1. Average Age of Principal Investigators with MD, MD-PhD, or PhD at the time of First R01 Equivalent Award from NIH, Fiscal Years 1980 to 2011

Source: Rock Talk blog, February 2012, http://nexus.od.nih.gov/all/2012/02/03/our-commitment-to-supporting-the-next-generation/
Composition of the Proposed FY 2015 Budget
Total Outlays = $3.9 trillion
outlays in billions of dollars

- Defense Discretionary: $555
- Nondefense Discretionary: $500
- Medicare: $526
- Medicaid: $336
- Social Security: $897
- Other Mandatory: $699
- Net Interest: $252
- [Defense R&D]: $69
- [Nondefense R&D]: $62

Source: Budget of the United States Government FY 2015. Projected deficit is $564 billion. © 2014 AAAS
Two Spending Categories: Discretionary vs. Mandatory

- **Mandatory Spending (aka Direct Spending)**
  - Mostly entitlements, mostly on “autopilot”
  - Potential for high political sensitivity = “third rail”

- **Discretionary Spending:**
  - Adjusted annually
  - Easy (nondefense) targets?
    - i.e. Sequestration
  - Vast majority of federal R&D is discretionary
Federal Spending as a Percent of GDP, 1962 - 2019

Source: Budget of the U.S. Government FY 2015. © 2014 AAAS
A Typical Federal Budget Process: Three Years, Four Phases

Phase 1: Planning within Agency w/ OMB and OSTP oversight
Phase 2: OMB Review
Phase 3: Congressional budget and appropriations

Phase 4: Execute the fiscal year’s budget (not shown)

Arranged by fiscal year (October to September)
### The Federal Budget Cycle

<table>
<thead>
<tr>
<th>Phase 1: Planning within Agency w/ OMB and OSTP oversight</th>
<th>Phase 2: OMB Review</th>
<th>Phase 3: Congressional budget and appropriations</th>
</tr>
</thead>
<tbody>
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<td>Oct Nov Dec Jan Feb Mar Apr May Jun Jul Aug Sep</td>
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- **Phase 1: Internal agency discussions and planning**
  - Strategic plans, staff retreats, stakeholder meetings, program assessments
- **OMB is present throughout**
  - Early spring: guidance memo
  - Science & Tech: Joint guidance memo from OMB / OSTP (midsummer)
- **Agencies deliver budget justifications to OMB (early fall)**
What Drives Presidential R&D Budget Formulation?

- Top-down and bottom-up priorities and politics
- OMB oversight and OSTP input
- Expert and community input
- Congressional legislation
- Big (fiscal) picture
- Incrementalism

BY TIM SEMERING, BEREND WARMAN, DOUG PHILP, ERIC AMBROSE, DANIEL BECH & RICHARD MORTARA

It’s not every day you have parks running through your house,” President Obama quipped last week at the White House science fair, a showcase for student exhibitions that also gave the US president a chance to reassess a favourite theme: Science and technology, he said, “in which going to make a difference in this country, over the long haul.”

Obama would dearly like to see many more robots, as well as researchers and engineers, running around in the future—a wish reflected in his budget request for fiscal year 2013, released on 13 February. The document is one of Big ambitions with fewer resources.

A year ago, Obama proposed bold increases for science agencies, but a Congress intent on cutting government spending reduced the request to less than half of the White House proposal. This time, the White House has asked for a 3% increase in science funding to $11.4 billion.

“Overall, the budget maintains an upward trend,” says John Holdren, director of the White House Office of Science and Technology Policy in Washington DC. “Because of fiscal restraints, it is not as high as we preferred.”

With an election coming this November, House Republicans are unlikely to be generous with the president’s requests. In previous years, Congress could delay action on the budget, especially if it declines to fund priorities.

The House budget request would have cut the non-defense portion of the science budget by 5% and 2% to $11 billion. The Obama administration, however, has not yet proposed a specific request for fiscal year 2014.

Obama shoots for science increase

US president wants to make room for research to grow in 2013 — but faces an uphill battle.

Obstetrician and Public Health

The National Institute of Health (NIH) in Bethesda, Md, has the largest US research agency, so its budget, at $30.6 billion, is a major driver. A key part of the budget request is to restore the budget to its 2008 level, after a cut of $2 billion in 2012.
Science + Politics Mingle: One Example

- Human Genome Project
  - Community takes first interest in mapping/sequencing
  - DOE labs take early gov’t interest and lead
    - Radiation and computing power
  - DOE labs officials convince dept. managers and advisory groups, OMB, Appropriators
  - NIH sets up its own program
    - Interagency rivalry evolves to collaboration
    - Congress eventually creates NHGRI
The Federal Budget Cycle

Phase 1: Planning within Agency w/ OMB and OSTP oversight

Phase 2: OMB Review

Phase 3: Congressional budget and appropriations

- Phase 2: OMB performs multi-stage review, responds to agencies (“passbacks”)
  - Agencies and agency heads can and do negotiate
- Budget proposals are finalized in January
- President presents the proposed budget to Congress early February
The Federal Budget Cycle

- Phase 1: Planning within Agency w/ OMB and OSTP oversight
- Phase 2: OMB Review
- Phase 3: Congressional budget and appropriations

- Phase 3: Congress gets involved
- Receives and reacts to President’s budget, holds hearings
- IN THEORY: Approves budget resolution (simple majority)
  - 302(b) allocations to the 12 appropriations subcommittees
The Budget Resolution

- Overall spending framework
- Discretionary spending figure is divvied up by appropriations committees
- Budget resolution is a political document
  - (which is why they can’t seem to pass one?)

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**House approves Ryan budget plan to cut spending, taxes**

*By Rosalind S. Helderman*

The House of Representatives on Thursday approved a $3.5 trillion budget plan proposed by Rep. Paul Ryan (R-Wis.) on a 228 to 191 vote, largely along party lines.

The plan aims to curb exploding deficits through deep cuts in domestic programs, while lowering tax rates for individuals and businesses.

The plan will be rejected by the Democratic-majority Senate. But the House vote is significant for the opportunity it presented both parties to lay down a marker on the nation’s key fiscal issues heading into the November election campaign.

The House vote breakdown was 228 Republicans in favor, 181 Democrats and 10 Republicans opposed.

Republicans said the budget represented an honest attempt to tackle the nation’s growing trouble with debt.
FY 2014 R&D Appropriations by Spending Bill
Estimated funding as a percent of FY 2012, in constant dollars

- Defense
- CJS
- Energy and Water
- Agriculture
- Interior and Environment

CJS = Commerce, Justice, Science bill (includes NSF, NASA, Dept. of Commerce). FY 2012 = 100%. Source: AAAS analyses of agency budget documents and appropriations bills and reports. FY 2013 figures are current estimates. R&D includes conduct of R&D and R&D facilities. © 2014 AAAS
The Federal Budget Cycle

- Approps committees write/approve 12 appropriations bills
  - Bills have to pass both chambers
  - Differences are resolved in conference committee
  - Can be filibustered
- “President proposes, Congress disposes”
Gov’t is working on 3 budgets at any given time. Right now:

- Spending FY14
- FY15 released, Congress getting involved
- Agencies / OMB already thinking about FY16
Looking ahead...

- Discretionary spending in FY 2015 has already been agreed
  - 25% of sequester reductions rolled back
  - Budget resolutions? Maybe in the House
  - Beyond FY 2015: back to sequester levels

- Big-picture fiscal challenges remain largely unchanged
- Can R&D stay ahead of the curve?
Federal R&D Projections Under Various Scenarios
billions of constant 2014 dollars

Source: AAAS R&D reports and analyses of FY 2015 agency budgets and legislative documents. "OGSI" refers to the Opportunity, Growth and Security Initiative, which adds an additional $5.3 billion to the R&D budget. Adjusted for inflation using OMB's deflators. R&D includes conduct of R&D and R&D facilities. © AAAS 2014
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