The Federal Budget is Kind Of a Big Deal

- “Politics is who gets what, when, and how.” - Harold Lasswell
- “Budgeting is about values, and it’s about choices.” - Rep. Rosa DeLauro

- Every dollar in the budget has its claimants!
- Negotiation between competing interests (and their proxies) in a decentralized system

- Major impact for R&D and innovation: most basic research, and most university research, is federally funded
Composition of the Proposed FY 2016 Budget

Total Outlays = $4.0 trillion

outlays in billions of dollars

- Net Interest: $283
- Defense Discretionary: $528
- Nondefense Discretionary: $495
- Social Security: $938
- Medicare: $583
- Medicaid: $351
- Other Mandatory: $670
- Net Interest: $283
- Defense R&D: $77
- Nondefense R&D: $69

Source: Budget of the United States Government FY 2016. Projected deficit is $474 billion. © 2015 AAAS
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)
<table>
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<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>
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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, planning, and review
  - Early spring: guidance memo
  - Science & Tech: Joint guidance memo from OMB / OSTP (midsummer)
- **Phase 3:** Agencies deliver budget justifications to OMB (early fall)
The Federal Budget Cycle

- 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
Total R&D by Agency, FY 2016

budget authority in billions of dollars

- DOD, $71.9
- HHS (NIH), $31.0
- DOE, $12.5
- NASA, $12.2
- NSF, $6.3
- USDA, $2.9
- Commerce, $2.1
- All Other, $6.2

Total R&D = $145.3 billion

Source: OMB R&D data, agency budget justifications, and other agency documents and data. R&D includes conduct of R&D and R&D facilities. © 2015 AAAS
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 receives and reacts to President’s budget, holds hearings
- **IN THEORY**: Approves budget resolution (simple majority)
- Approps committees write/approve 12 appropriations bills
- “President proposes, Congress disposes”
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?)
- Reconciliation instructions?
- 302(b) allocations
FY 2014 R&D Appropriations by Spending Bill
Estimated funding as a percent of FY 2012, in constant dollars

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

- Gov’t is working on 3 budgets at any given time. Right now:
  - FY15 in progress
  - FY16: Budget resolutions; approps to follow
  - FY17: Agencies ramping up
Broad Qualities of the System

- Decentralization
- “Embeddedness”
- Incrementalism
Limits on Discretionary Spending Since FY 2010
billions of constant 2015 dollars

Based on past budget resolutions, the Budget Control Act, and subsequent legislation. Adjusted for inflation using deflators from the FY16 budget request. © AAAS 2015
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FY16 R&D in the Base Budget by Function
percent change from FY 2015, nominal dollars

Source: OMB R&D data, agency budget justifications, and agency budget documents. © 2015 AAAS
Trends in Federal Spending Since FY 2010
Percent of FY 2010 budget authority, constant dollars

Based on OMB, agency and Congressional budget documents, and GDP deflators from the President's FY 2015 budget.
© 2014 AAAS
Trends in Federal R&D, FY 1977-2016
in billions of constant FY 2015 dollars

Source: AAAS analyses of historical budget and appropriations data. Pre-1994 figures are NSF obligations data from the Federal Funds survey. FY 2016 is the President's request. R&D includes conduct and facilities. © 2015 AAAS
Federal R&D in the Budget and the Economy
Outlays as share of total, 1962 - 2016

Source: Budget of the United States Government, FY 2016. FY 2016 is the President's request. © 2015 AAAS
Composition of the Federal Budget
Outlays as share of total budget, 1962 - 2016

Source: *Budget of the United States Government, FY 2016.* "Investments" include outlays for R&D, education and training, direct nondefense infrastructure, and other grants, primarily for transportation. "Payments to Individuals" are primarily entitlement programs like Medicare, Medicaid, and Social Security, but also include many other public assistance programs. © 2015 AAAS
R&D as a Share of GDP by Funder

Source: National Science Foundation, *National Patterns of R&D Resources* series. © 2015 AAAS
Research as a Share of GDP by Funder

Source: National Science Foundation, *National Patterns of R&D Resources* series. © 2015 AAAS
Limits on Discretionary Spending Since FY 2010
billions of constant 2015 dollars

Based on past budget resolutions, the Budget Control Act, and subsequent legislation. Adjusted for inflation using deflators from the FY16 budget request. Excludes war funding proposals. © AAAS 2015
Limits on Defense Spending Base
billions of constant 2015 dollars

Based on past budget resolutions, the Budget Control Act, and subsequent legislation. Adjusted for inflation using deflators from FY16 request. Does not include war funding. © AAAS 2015
Limits on Nondefense Spending Base
billions of constant 2015 dollars

Based on past budget resolutions, the Budget Control Act, and subsequent legislation. Adjusted for inflation using deflators from the FY16 budget request. © AAAS 2015
For more info...

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http://www.aaas.org/program/rd-budget-and-policy-program