Philanthropic Support for Basic Science

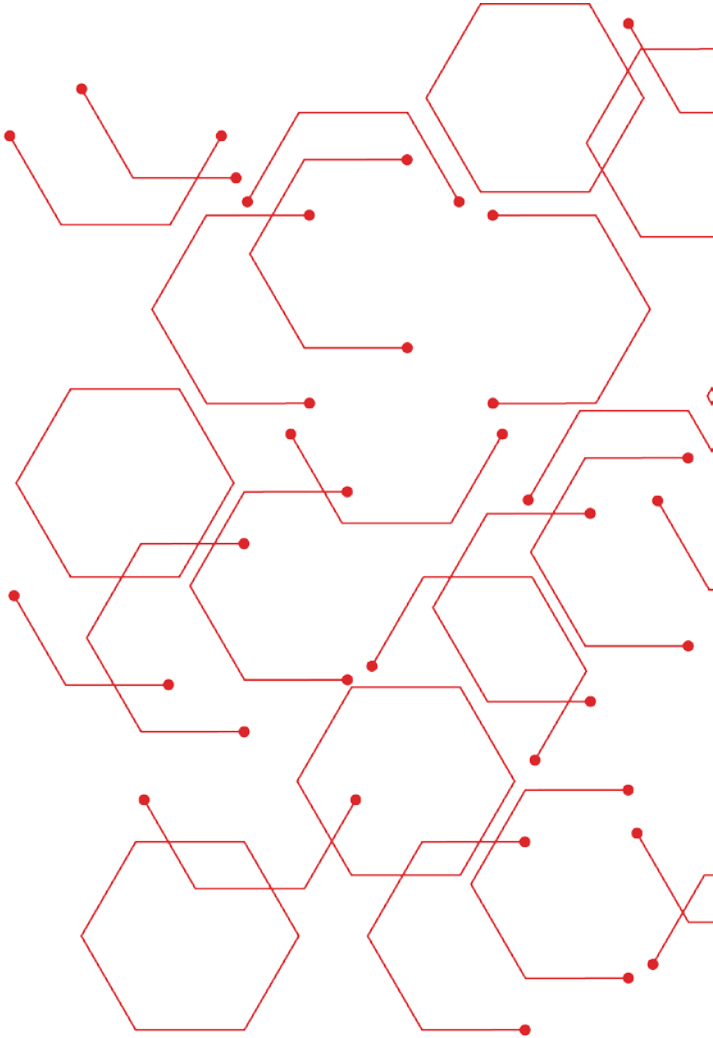
Presentation to Astro 2020

October 22, 2019

SCIENCE PHILANTHROPY ALLIANCE

Trends in the US

- R&D spending from all sectors
- Basic Research spending from Federal Gvt
- Basic Research spending from philanthropy
- Science Philanthropy Alliance
- Lessons for Astro 2020

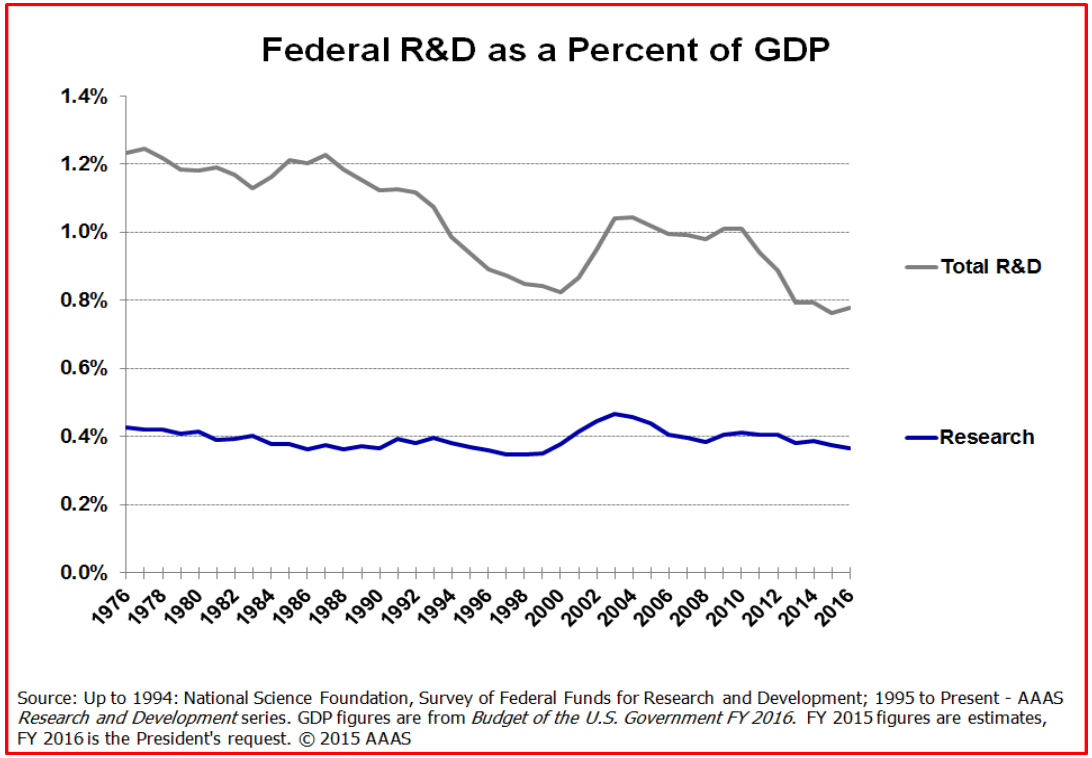


US R&D Spending is Falling Behind

c expenditures on R&D as a share of gross domestic product, by the United States, the EU, and selected other countries: 1981–2015

Includes private and public sectors.

Federal R&D has been Declining, but Research has been Relatively Stable



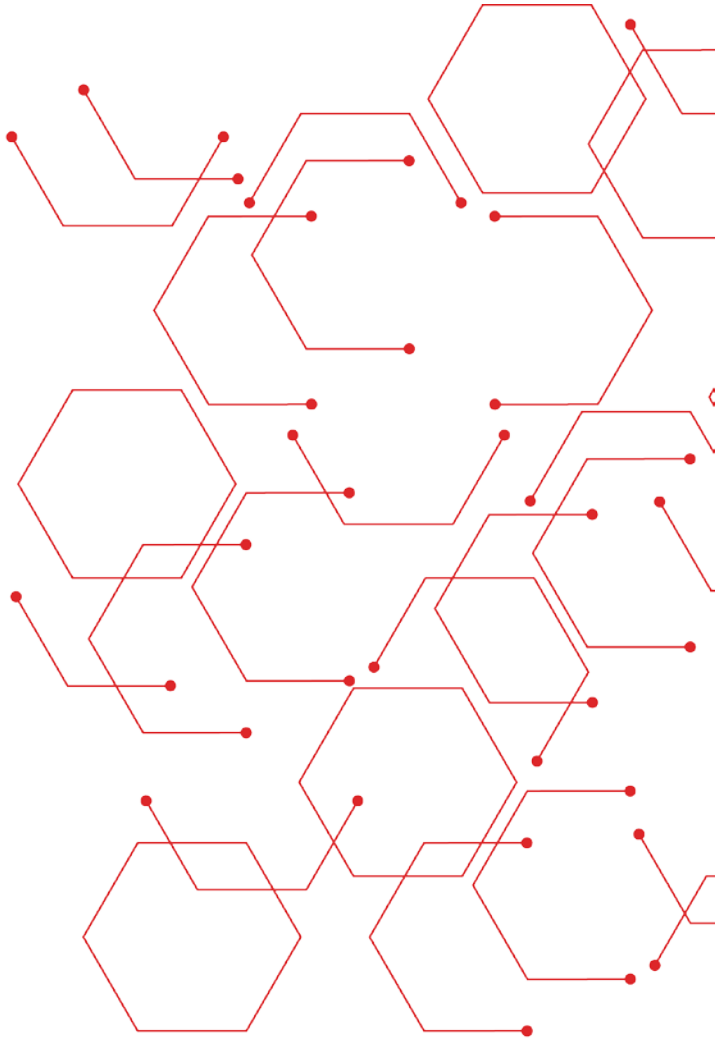
Source: Up to 1994: National Science Foundation, Survey of Federal Funds for Research and Development; 1995 to Present - AAAS *Research and Development* series. GDP figures are from *Budget of the U.S. Government FY 2016.* FY 2015 figures are estimates, FY 2016 is the President's request. © 2015 AAAS

Federal Definitions

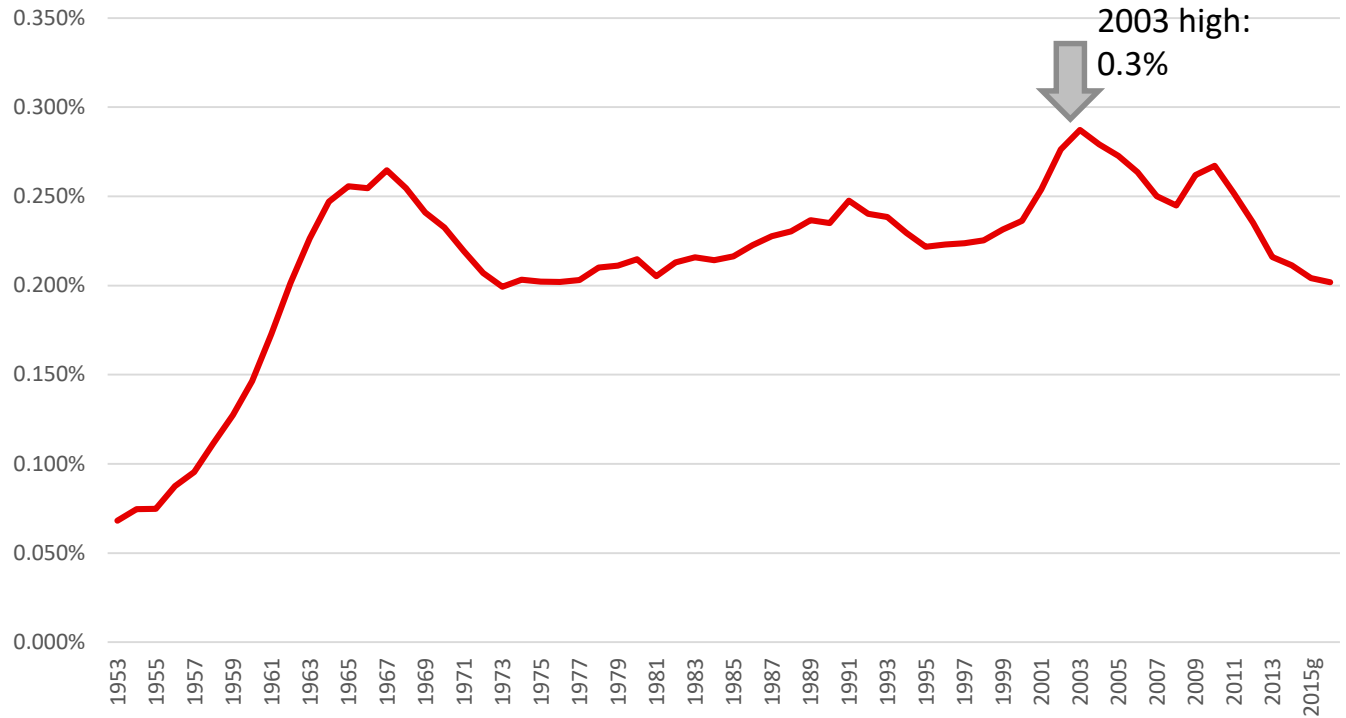
In **basic research** the objective of the sponsoring agency is to gain more complete knowledge or understanding of the fundamental aspects of phenomena and of observable facts, without specific applications toward processes or products in mind.

In **applied research** the objective of the sponsoring agency is to gain knowledge or understanding necessary for determining the means by which a recognized need may be met.

https://www.nsf.gov/statistics/fedfunds/glossary/def.htm



Federal Funding of Basic Research as % of GDP



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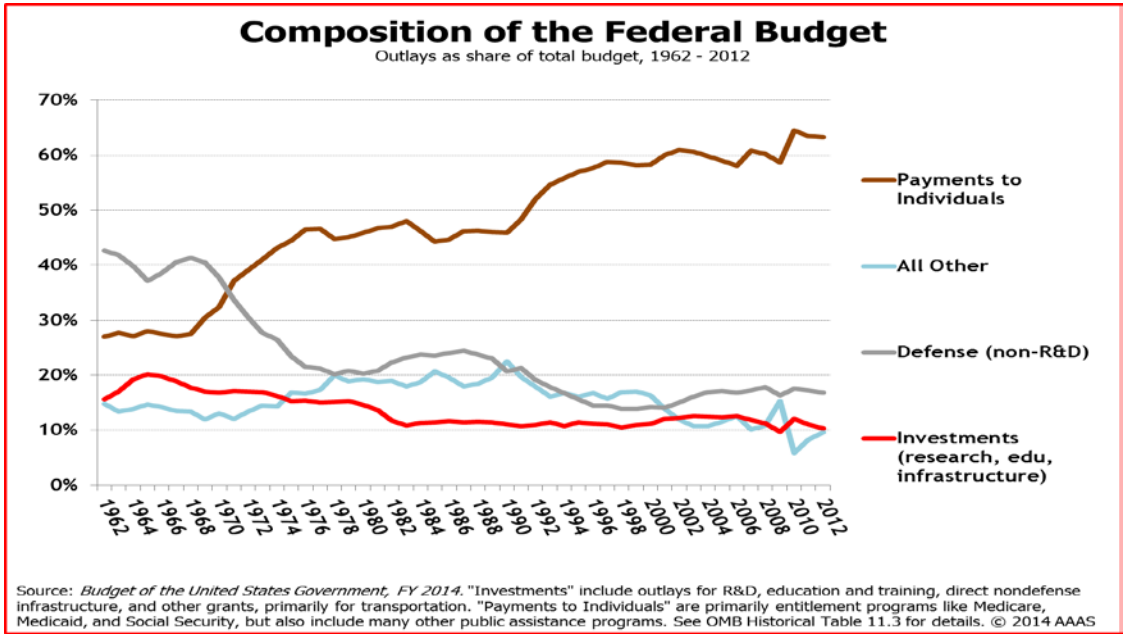
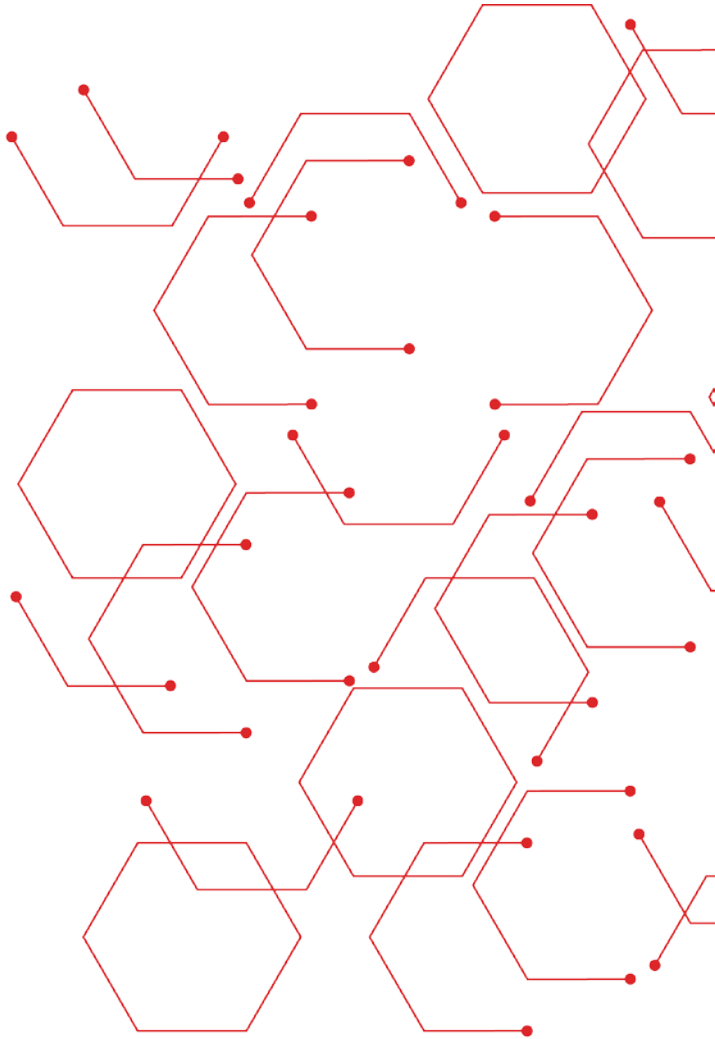
The Big Problem: Fewer Funds are Available for Discretionary Activities



Where does Federal Basic Research Money Go?

Federal funding to basic science	$ in billions
Federal intramural	6.3
FFRDCs	4.3
Businesses	1.9
Universities	22.1
Nonprofit R&D institutions	3.1
Total federal funding	**37.7**

Data from NSF



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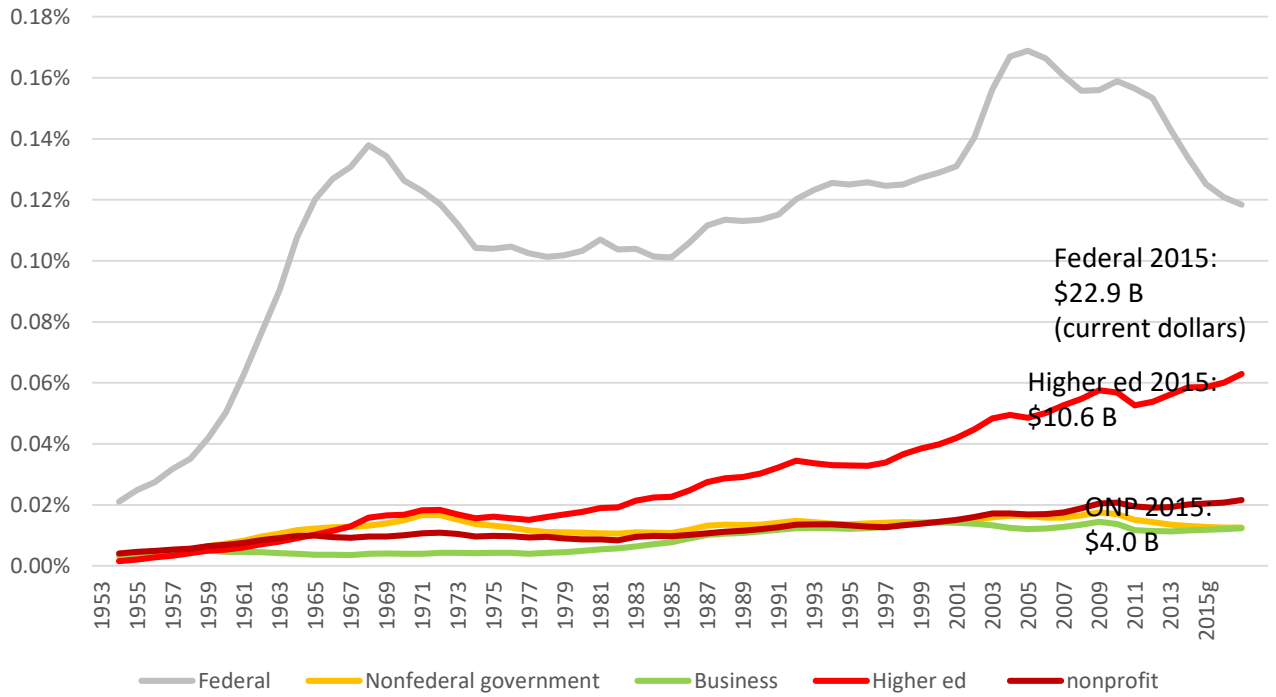
Funding Sources for Basic Research Expenditures of Universities as % of GDP



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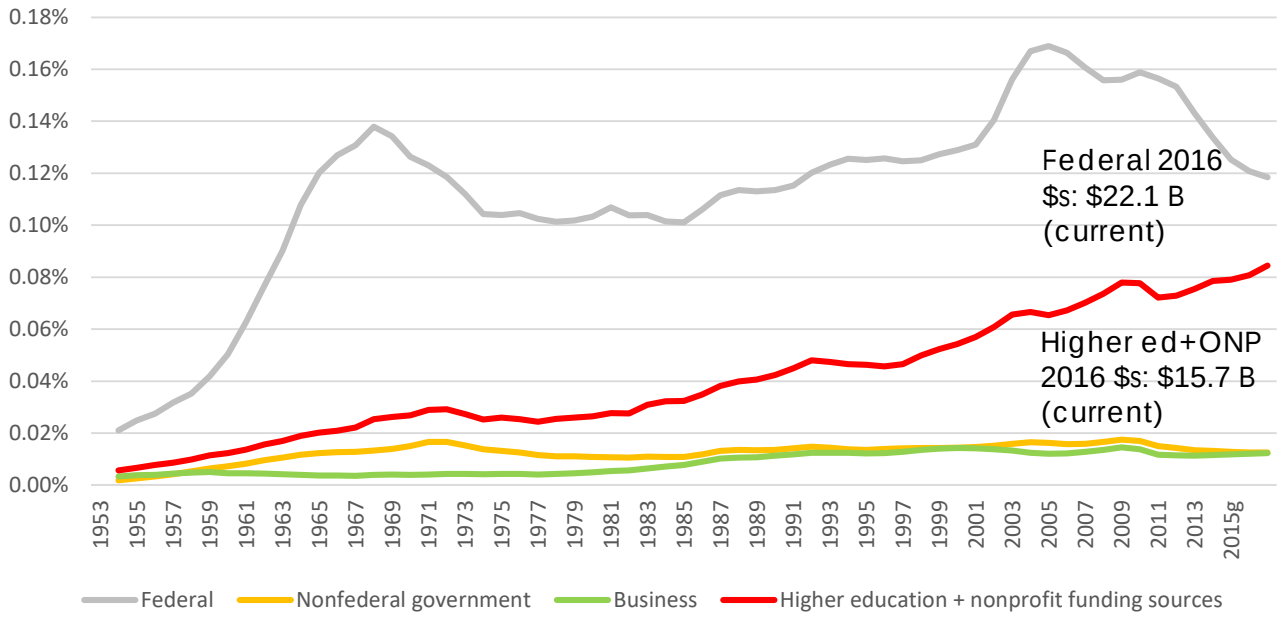

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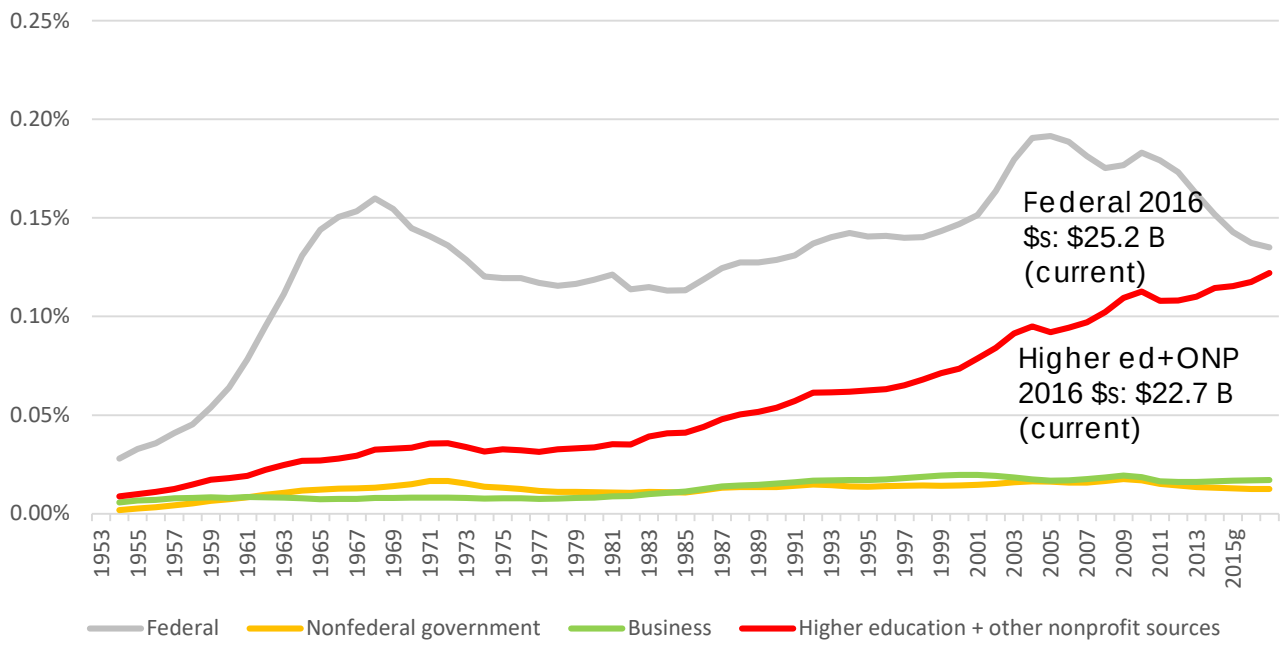
Funding Sources for Basic Research Expenditures of Universities and Research Institutions as % of GDP



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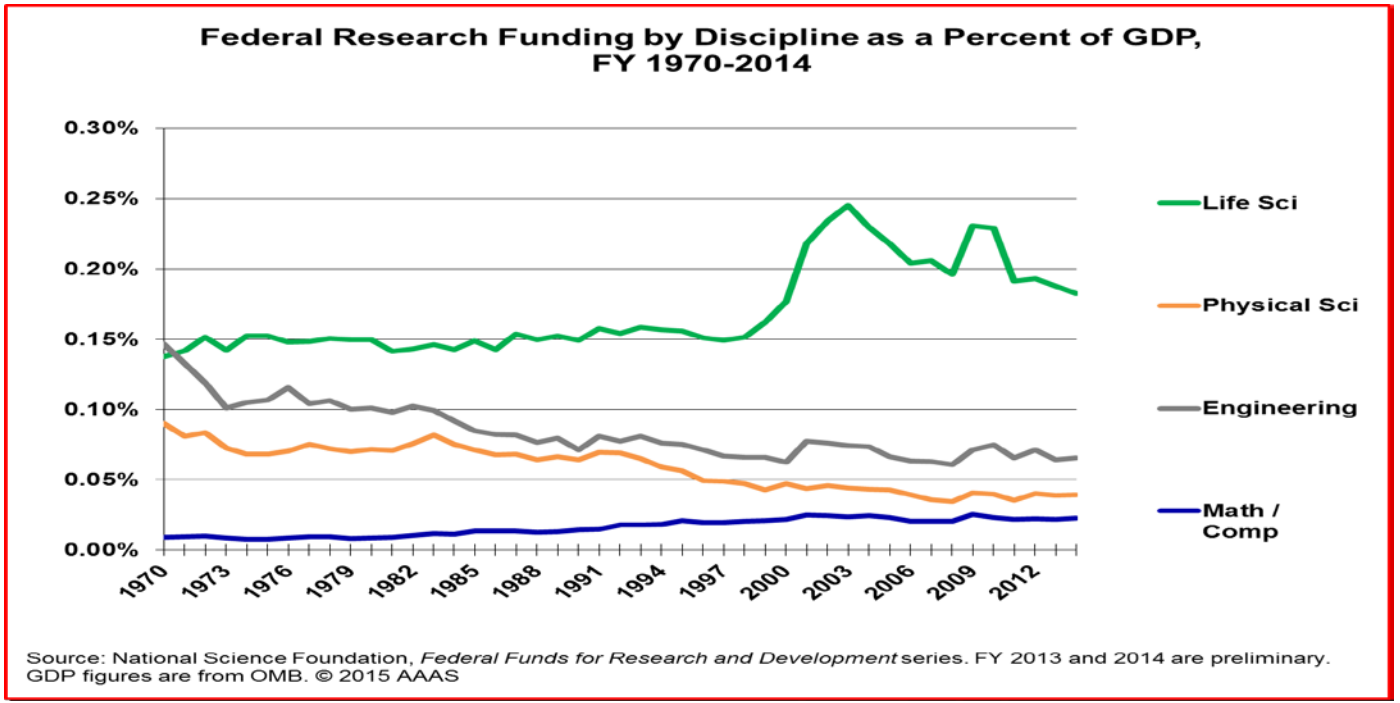
Distribution of Funding has Changed Significantly

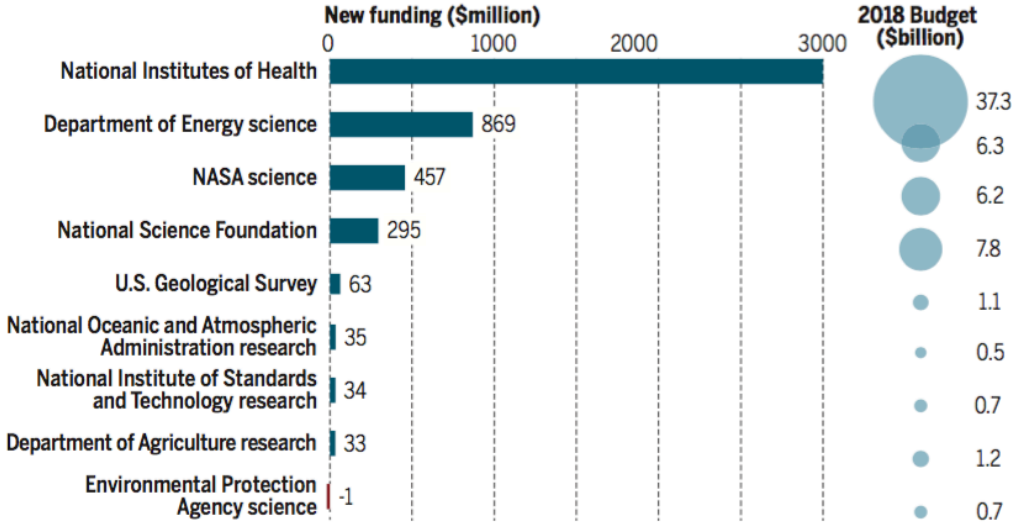


Good News for Now

Congress gives science a record funding boost

The National Institutes of Health leads the way

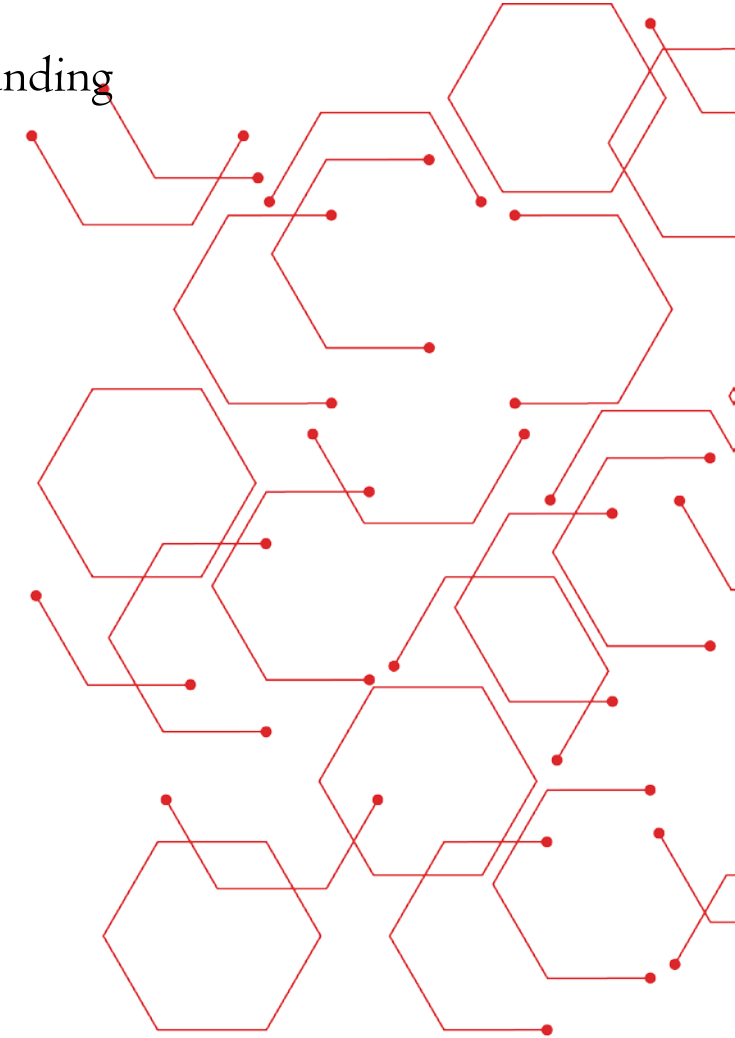
Biomedical research won about two-thirds of the $4.8 billion increase given to nine civilian science agencies.



Source: *Science* Magazine, March 30 2018

Philanthropic Funding of Basic Science vs Government Funding

- Nimble
- Can provide more support, for longer
- Less constrained by politics
- Can kickstart government funding



INTRODUCTION TO THE SCIENCE PHILANTHROPY ALLIANCE

October 2019

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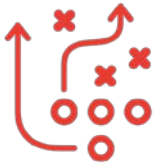
Mission

To increase private support for basic science research

Challenge

Science landscape is complex



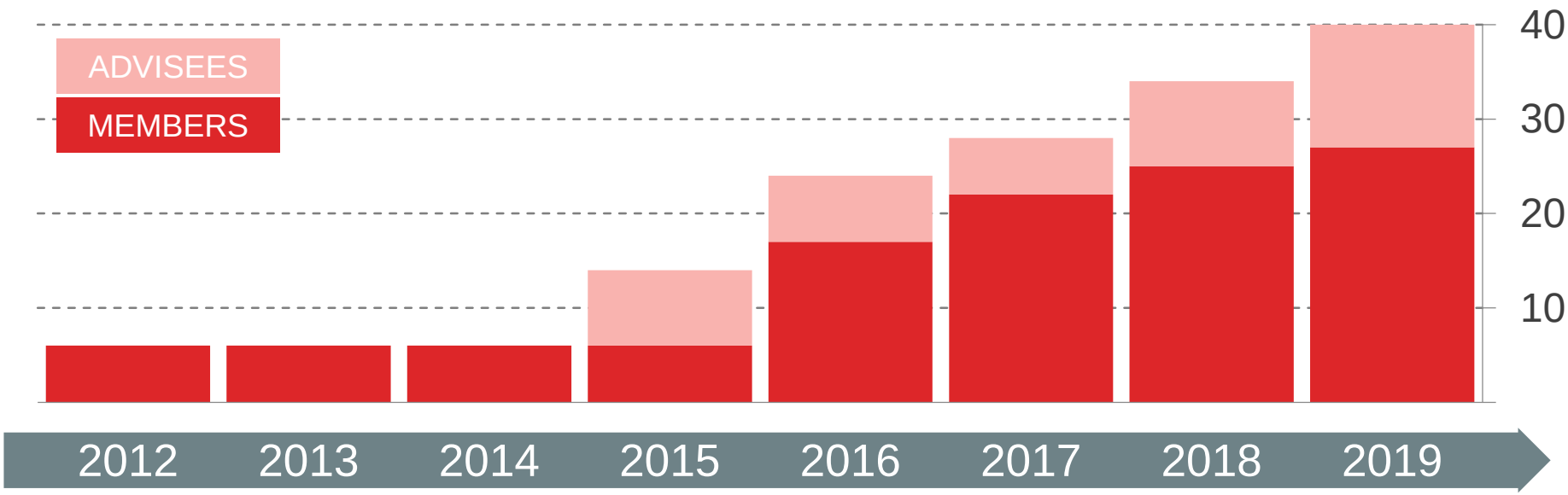
Strategy

Trusted advisors to philanthropists

Model

Members underwrite advising work

GROWTH OF MEMBERS & ADVISEES



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Elizabeth Christopherson

Adam Falk

Harvey Fineberg

Deanna Gomby

Daniel Linzer

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Jim Simons

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Ross M. Brown Family Foundation

The Shurl & Kay Curci Foundation

The Page Family

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Robert Tjian
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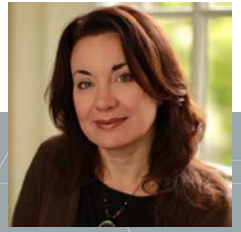

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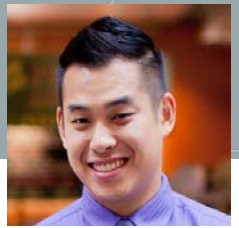
Director, Comms

Julie Kohrt
Director, Events



Jason Tung
Director,
Partnerships

Kate Lowry
Fellow

Elenoa Fuka
Operations
Manager

Lana Ha
Executive
Assistant

WHAT WE DO

Advise

- Personalized advising
- Science advisors
- Funding models

Connect

- Intros to our members
- Intros to scientists and institutions
- Partnerships

Inform

- Member practice reports
- News about science funding and science philanthropy

Convene

- Science field specific philanthropy workshops
- Regional science philanthropy events

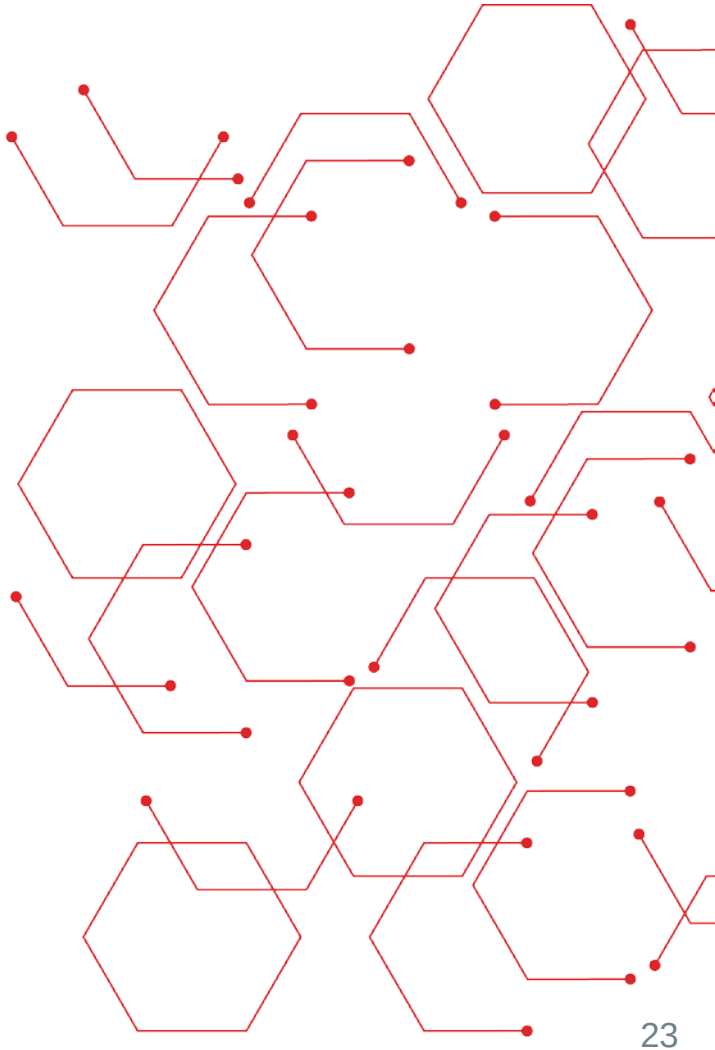
QUESTIONS WE GET FROM PHILANTHROPISTS

> Funding Gaps

> Science Advisors

> Funding Mechanisms

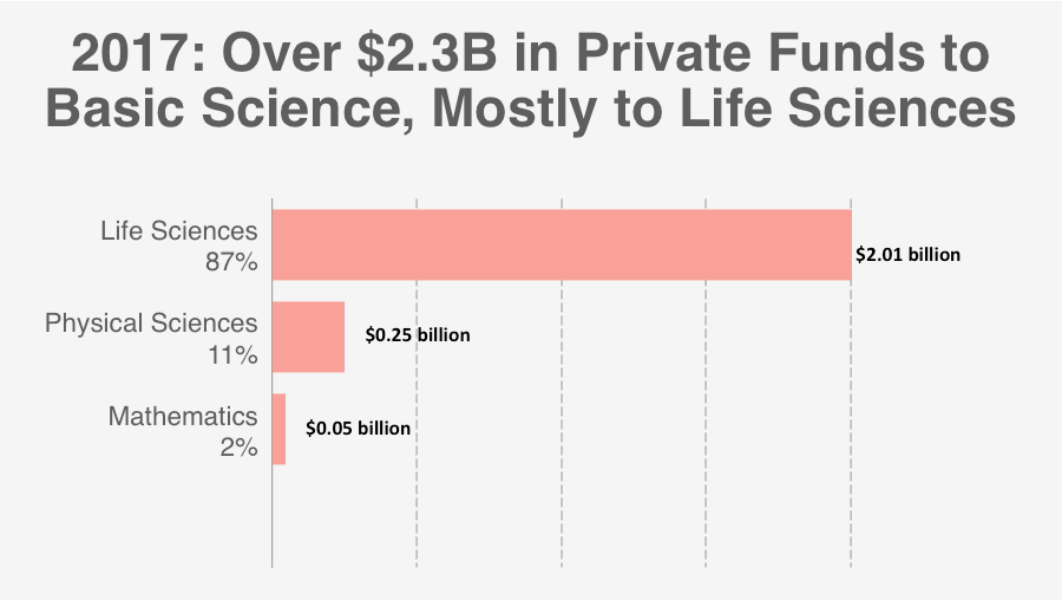
> Measuring Impact



Science Philanthropy Alliance Survey

Federal funding of basic research at higher education institutions: $25B (AAAS, 2015)

College and university funding from private sources: $41B (Council for Aid to Education VSE Survey, 2016)



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Science Philanthropy Source