

Philanthropy and Basic Research: Partnerships and New Pathways for Sustainable Funding



France A. Córdova

President, Science Philanthropy Alliance



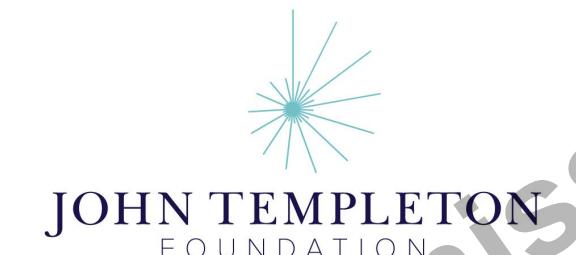
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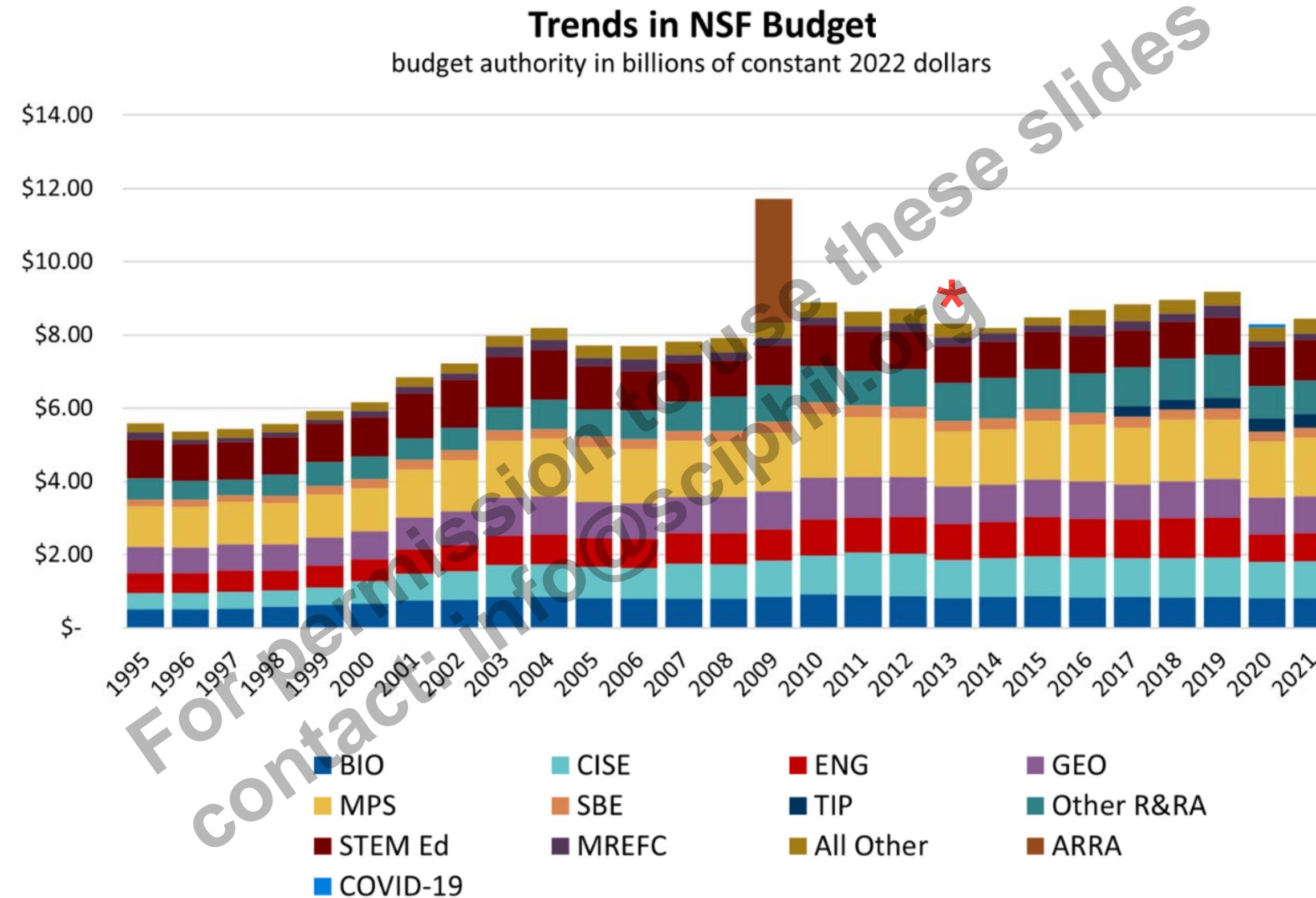


Science Philanthropy Alliance members



Anonymous

Formation of the Alliance: responding to a need



Source: AAAS Reports and agency budget data. Note: due to reorganizations, not all years directly comparable.

At time of update, 2022 values for directorates were not available | AAAS 2022

Fundamental research underpins innovation and technological achievement

Investing in basic research yields a remarkable return on investment



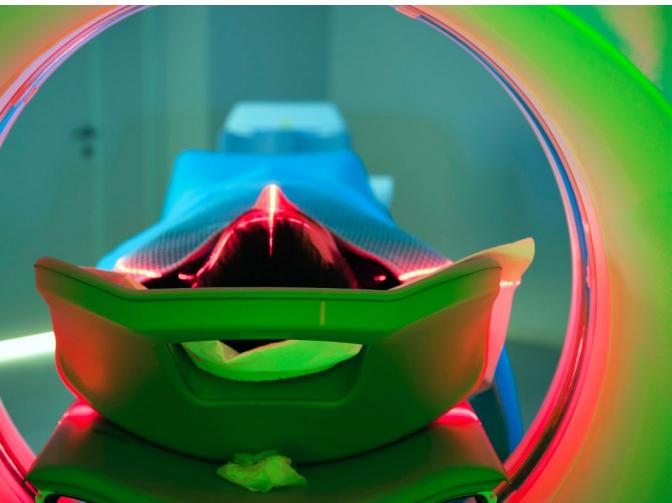
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Generative AI has its roots in basic research into neural networks

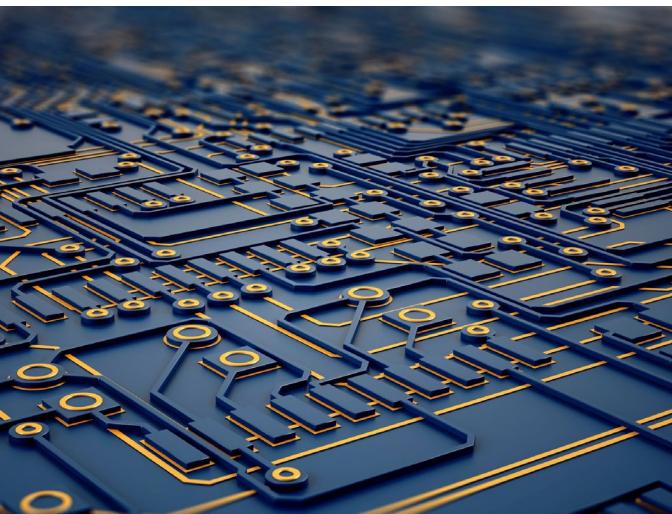
COVID-19
mRNA
vaccines



MRIs



Semiconductors



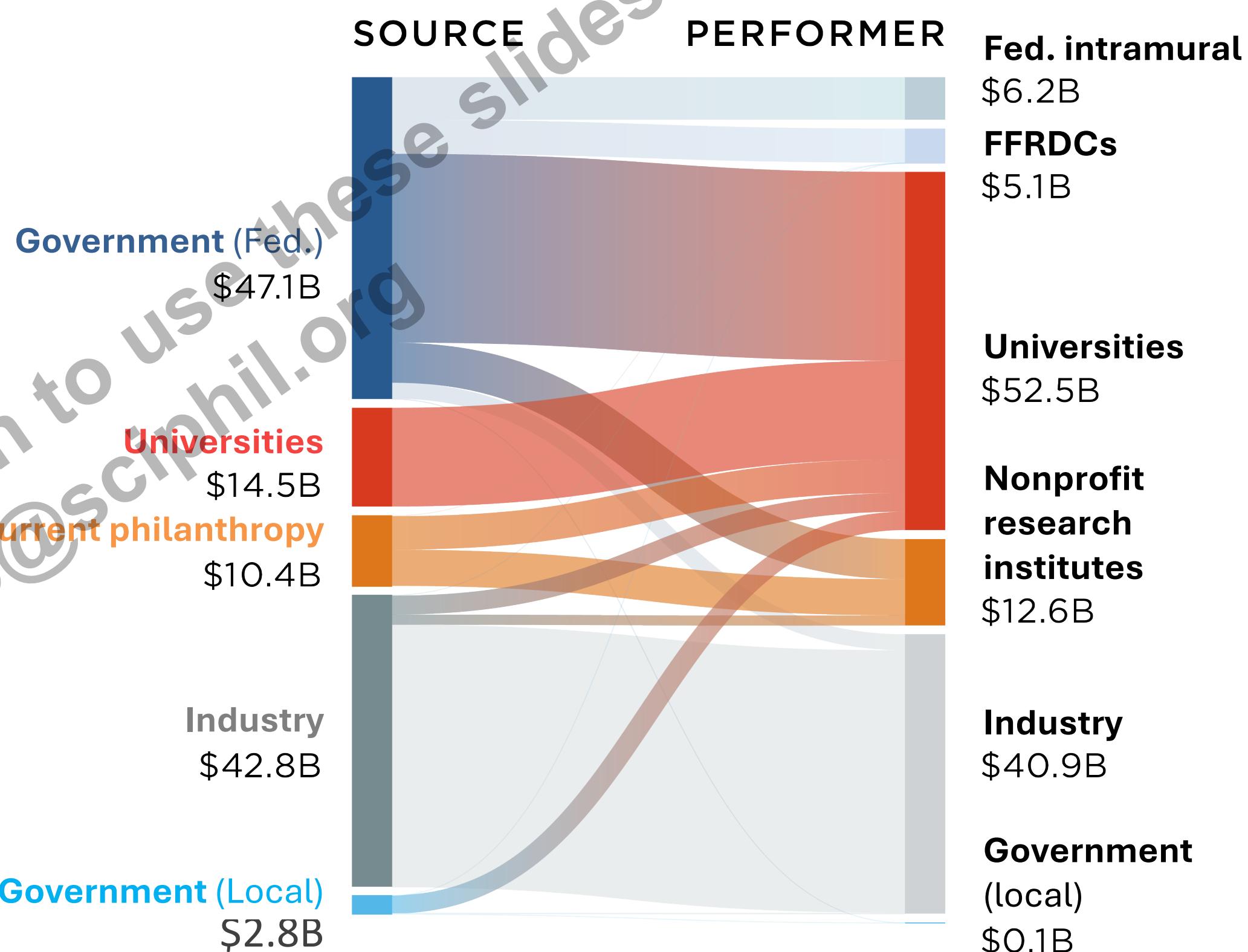
GPS



Philanthropic funds are a significant source of support for basic research

- All sectors of GUIRR fund basic research
- Current philanthropy from nonprofits is a significant contributor
- Universities and industry are central performers of basic research

Funds to All Performers
(2021 Estimate)



Investigating funding trends: Science Philanthropy Indicators Report

- Basic research represents less than 15% of U.S. R&D spending
- For basic research at U.S. universities: the percentage of federal support has declined while the percentage of philanthropic support has grown
- Support for applied research is growing faster relative to basic research
- Biomedical, biological, and health sciences receive the greatest investment
- Philanthropy can drive research in underfunded areas

Science Philanthropy Indicators Report

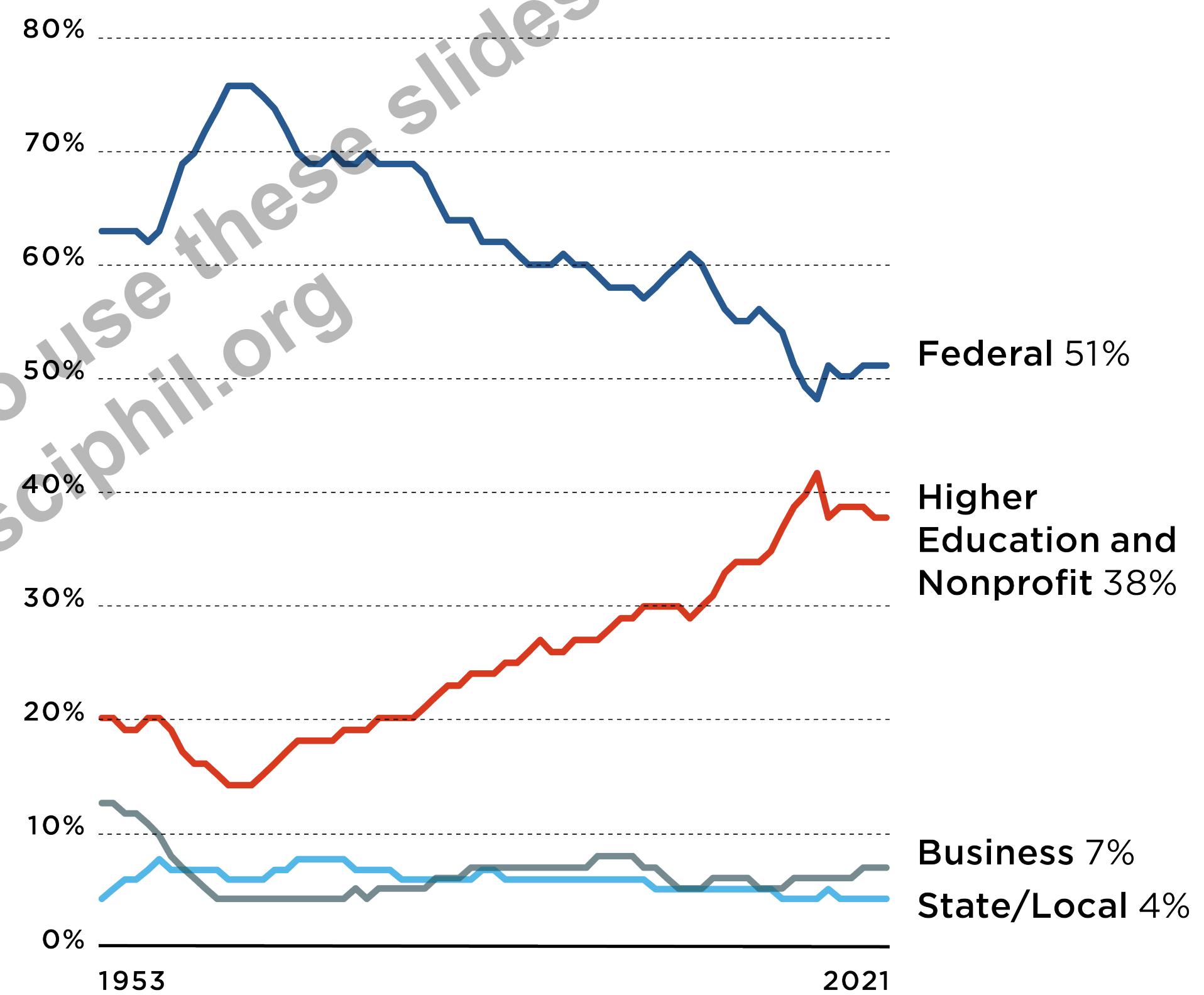
Science Philanthropy:
Leading the Way Forward
for Basic Research



Philanthropic funds are an increasing source of support for basic research

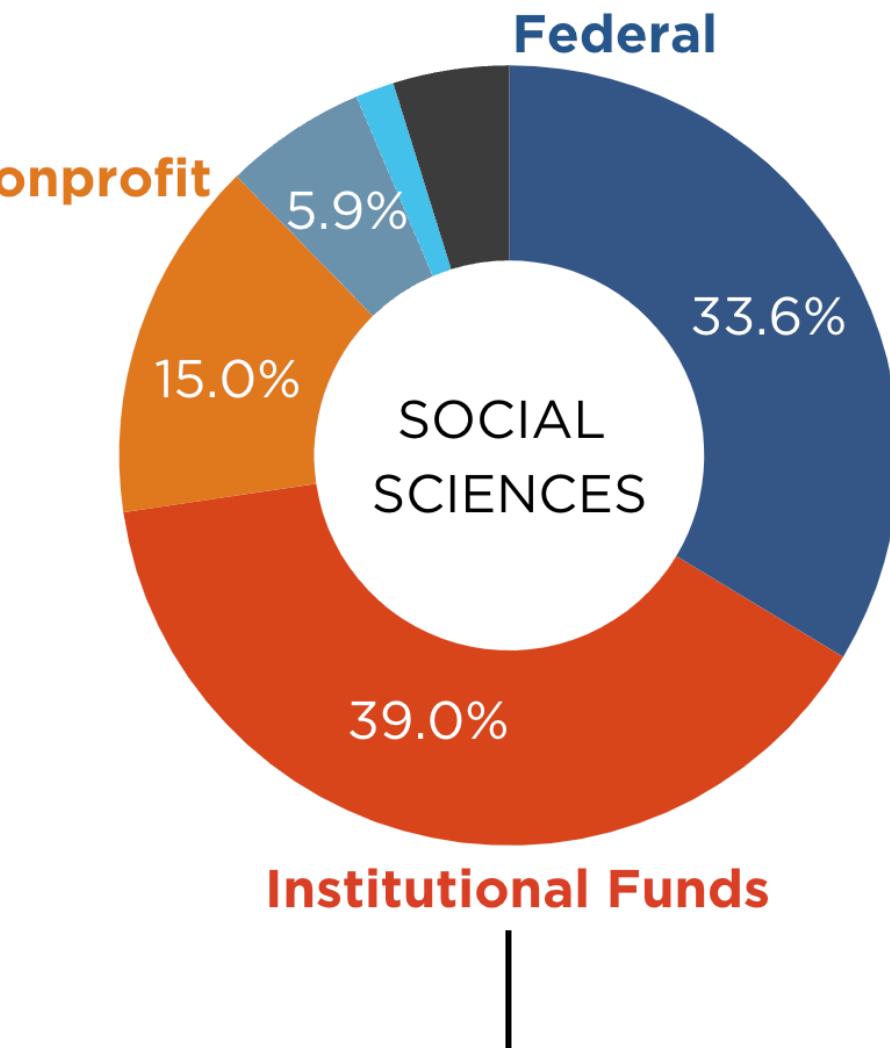
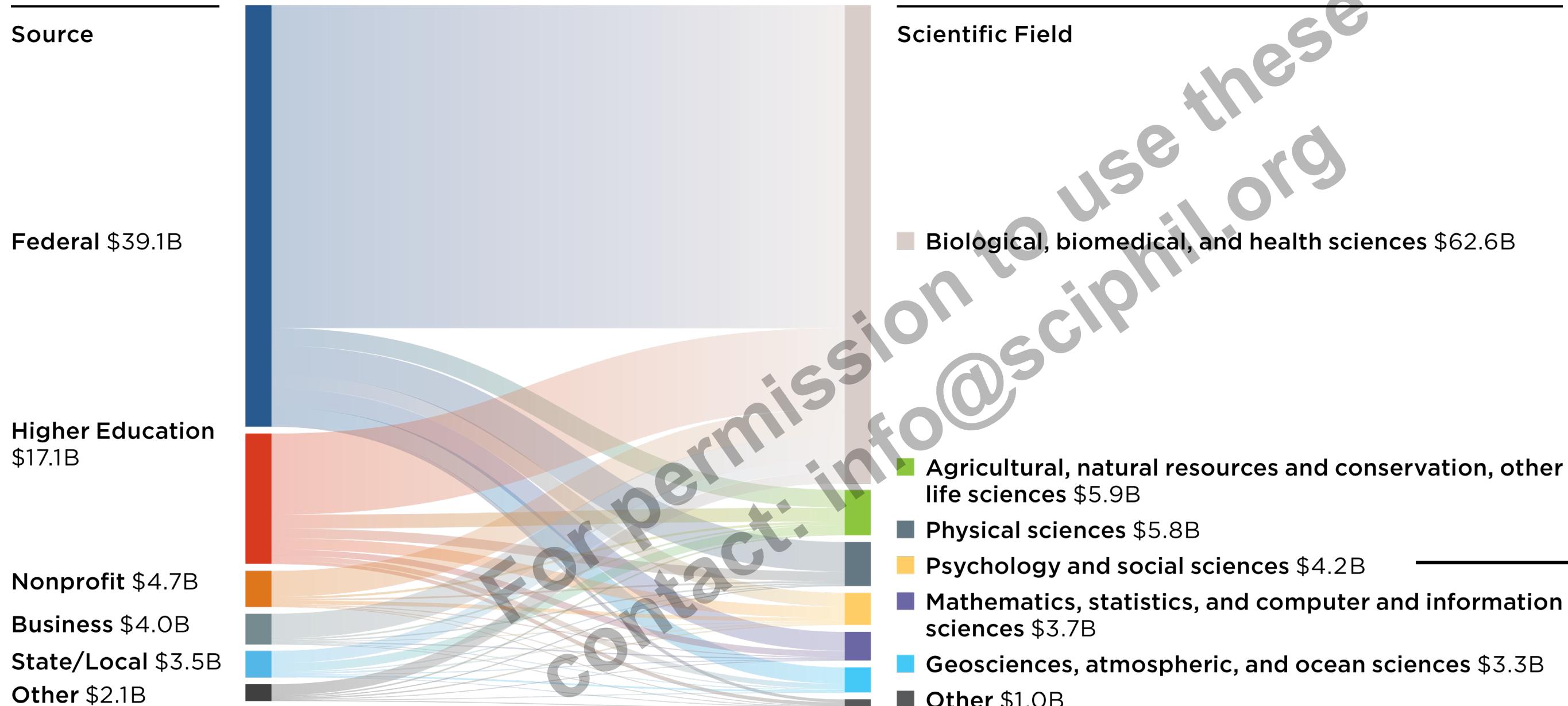
- The share of federal funding has steadily declined from its peak while other sources contribute more
- Nonprofit funds (16%) represent current philanthropy
- Higher Education funds (22%) include legacy philanthropy

Share at Universities and Nonprofit Research Institutes (1953–2021)



Philanthropy can have an **out-sized impact** in underfunded sectors

FLOW OF FUNDS FROM SOURCE TO FIELD (\$B)



The applied research sector is growing; philanthropy can ensure early-stage research is not left behind

Billions of Dollars (Inflation-Adjusted, 2021)

\$40B

\$35B

\$30B

\$25B

\$20B

\$15B

\$10B

\$5B

\$0B

1953

2006

2021

% Change

+1%

+39%

+72%

+99%

Basic: Federal
2021 = \$33.5B

Basic: Higher
Education
+ Nonprofit
2021 = \$24.7B

Applied: Federal
2021 = \$17.4B

Applied: Higher
Education
+ Nonprofit
2021 = \$12.7B

Philanthropy's advantages

- Bet on long-term and interdisciplinary ideas
- Scale funding through partnerships
- Drive underfunded areas
- Accelerate high-risk research
- Initiate new funding models
- Respond quickly and flexibly to opportunities
- Develop the next generation of discoverers
- Safeguard against flat federal spending

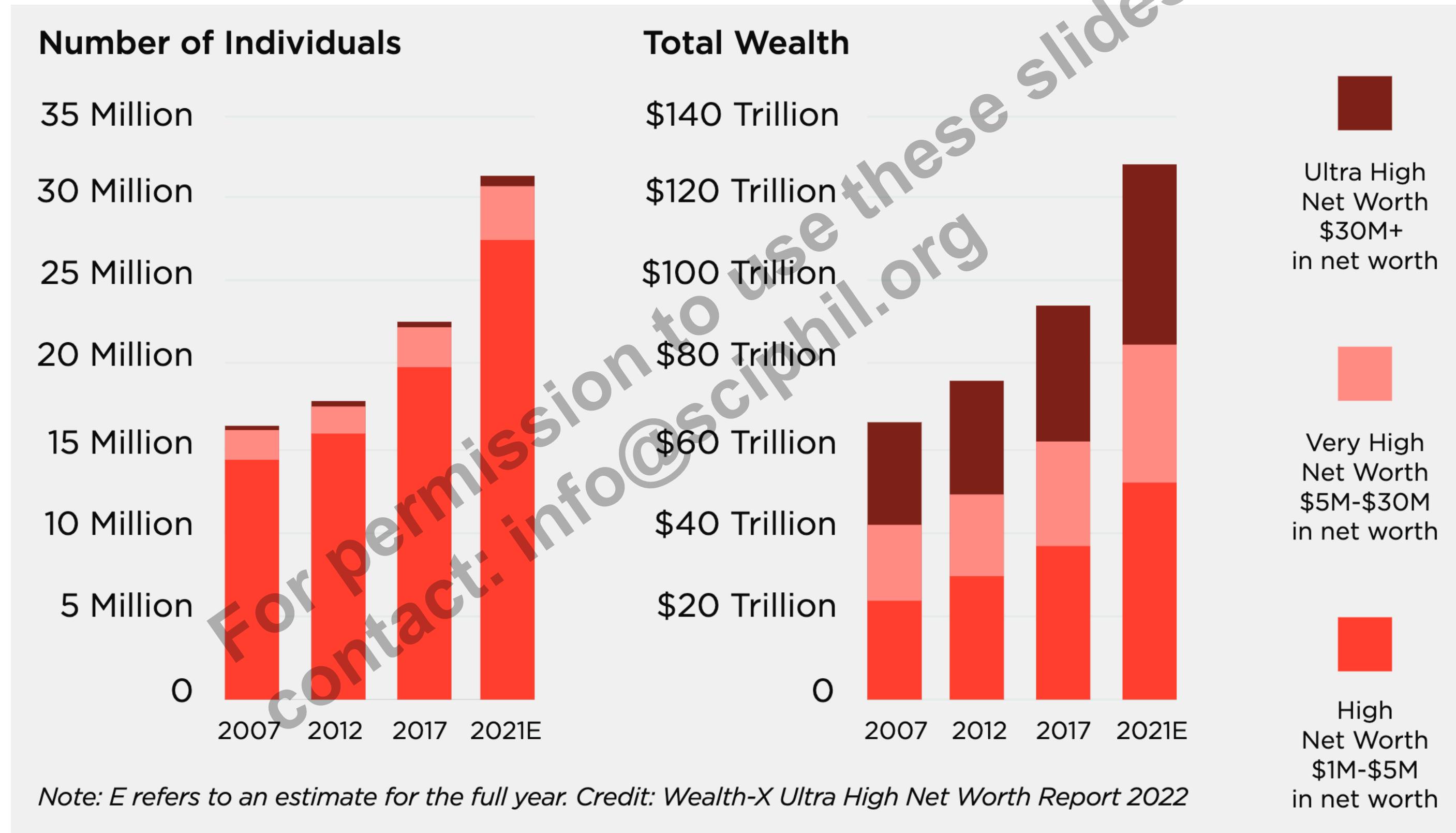
Science philanthropists can be “architects” of a new future, one in which humanity continues to benefit from science discoveries.

France A. Córdova

ISSUES IN SCIENCE & TECHNOLOGY
AUGUST 12, 2021



Funds on the sidelines: an expanding pool of potential philanthropists



New and ongoing areas of opportunity

- **Underfunded fields:** SPA roundtable (2023) focused on gaps, e.g.: ocean and marine science received less than 1% of nonprofit investment in 2021
- **Underfunded regions:** domestically, not all universities are equally well-resourced; internationally, the Global South receives less investment
- **New models of philanthropy:** seed funding for peer investors, crowdfunding platforms
- **Partnership:** philanthropies increasingly pursuing collaboration with other funders and government



Panel discussion

Tom Skalak

Senior Advisor,
Joe and Clara Tsai Foundation



Shirley Tilghman

President Emerita and Professor of
Molecular Biology and Public Affairs,
Princeton University



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The curiosity-driven side of research

Basic research is focused on the “underlying foundations” of our world, and has no particular application in mind

Applied research is knowledge creation directed towards practical outcomes

Development applies knowledge from research to new or improved products or processes

Adapted from the NSF Higher Education Research and Development Survey

We recognize that basic science and its applications co-evolve and catalyze each other. Investment in both is required for a vibrant future.

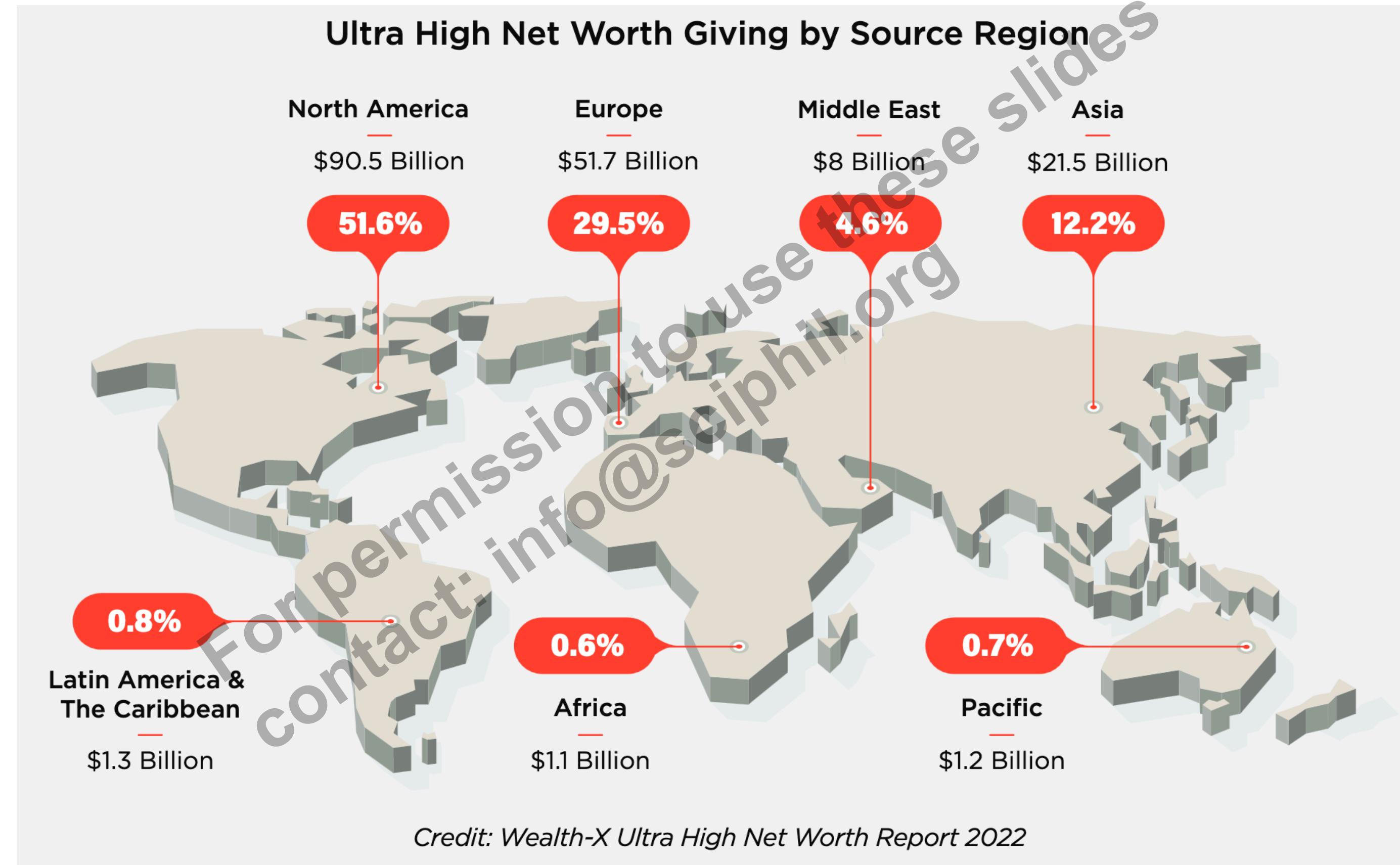
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2022-2027 STRATEGIC PLAN



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Most giving originates in North America and Europe



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