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EXAMINING THE OVERHEAD COST OF RESEARCH

JOINT HEARING

BEFORE THE

SUBCOMMITTEE ON RESEARCH AND TECHNOLOGY

&

SUBCOMMITTEE ON OVERSIGHT

COMMITTEE ON SCIENCE, SPACE, AND TECHNOLOGY

HOUSE OF REPRESENTATIVES

ONE HUNDRED FIFTEENTH CONGRESS

FIRST SESSION

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EXAMINING THE OVERHEAD COST OF RESEARCH

WEDNESDAY, MAY 24, 2017

HOUSE OF REPRESENTATIVES,
SUBCOMMITTEE ON RESEARCH AND TECHNOLOGY AND
SUBCOMMITTEE ON OVERSIGHT
COMMITTEE ON SCIENCE, SPACE, AND TECHNOLOGY,
Washington, D.C.

The Subcommittees met, pursuant to call, at 10:05 a.m., in Room 2318 of the Rayburn House Office Building, Hon. Barbara Comstock [Chairwoman of the Subcommittee on Research and Technology] presiding.

LAMAR S. SMITH, Texas
CHAIRMAN

EDDIE BERNICE JOHNSON, Texas
RANKING MEMBER

Congress of the United States
House of Representatives
COMMITTEE ON SCIENCE, SPACE, AND TECHNOLOGY
2321 RAYBURN HOUSE OFFICE BUILDING
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Examining the Overhead Cost of Research

Wednesday, May 24, 2017
10:00 a.m.
2318 Rayburn House Office Building

Witnesses

Mr. Dale Bell, Division Director, Institution and Award Support, National Science Foundation

Mr. John Neumann, Director, Natural Resources and Environment, U.S. Government Accountability Office

Mr. James Luther, Associate Vice President of Finance & Compliance Officer, Duke University; Chairman of the Board, Council on Government Relations

Dr. Richard Vedder, Distinguished Professor of Economics Emeritus, Ohio University, Department of Economics

U.S. HOUSE OF REPRESENTATIVES
COMMITTEE ON SCIENCE, SPACE, AND TECHNOLOGY

HEARING CHARTER

Wednesday, May 24, 2017

TO: Members, Committee on Science, Space, and Technology

FROM: Majority Staff, Committee on Science, Space, and Technology

SUBJECT: Research and Technology Subcommittee and Oversight Subcommittee hearing "Examining the Overhead Cost of Research"

The Subcommittee on Research and Technology and the Subcommittee on Oversight of the Committee on Science, Space, and Technology will hold a hearing titled *Examining the Overhead Cost of Research* on Wednesday, May 24, 2017 at 10:00 a.m. in Room 2318 of the Rayburn House Office Building.

Hearing Purpose:

The purpose of the hearing is to examine the overhead costs for conducting federal taxpayer-funded research at universities and non-profit research institutions, including how the National Science Foundation and other federal research agencies negotiate and monitor indirect costs (facilities and administrative costs), and hear recommendations for improving efficiency and transparency.

Witness List

- **Mr. Dale Bell**, Division Director, Institution and Award Support, National Science Foundation
- **Mr. John Neumann**, Director, Natural Resources and Environment, U.S. Government Accountability Office
- **Mr. James Luther**, Associate Vice President of Finance & Compliance Officer, Duke University; Chairman of the Board, Council on Governmental Relations
- **Dr. Richard Vedder**, Distinguished Professor of Economics Emeritus, Ohio University, Department of Economics; Director, Center for College Affordability and Productivity

Staff Contact

For questions related to the hearing, please contact Jenn Wickre of the Majority Staff at 202-225-6371.

Chairwoman COMSTOCK. The Committee on Science, Space and Technology will come to order.

Without objection, the Chair is authorized to declare recesses of the Committee at any time.

Good morning, and welcome to today's hearing titled "Examining the Overhead Cost of Research." I now recognize myself for five minutes for an opening statement.

The purpose of today's hearing is to examine the overhead costs of research, including how the National Science Foundation and other federal agencies negotiate and monitor these costs, how these funds are used, and to hear recommendations for improving efficiency and transparency.

Last year, this Subcommittee held a hearing on Academic Research Regulatory Relief, which looked at recommendations for streamlining federal regulations on academic research.

It has been a pleasure working with Ranking Member Lipinski on this Committee to cut the red tape, and I look forward to continuing that bipartisan cooperation.

Through legislation such as the American Innovation and Competitiveness Act, as well as the 21st Century Cures Act, both of which were signed into law in the past six months, we were able to listen to recommendations from universities and students to implement better practices designed to address inefficiencies and increase transparency. I was proud to sponsor the Research and Development Efficiency Act, which was included in the American Innovation and Competiveness Act.

As we move forward with reforming regulations, it is important to look at whether or not there are opportunities to streamline overhead costs as well, so that more money can go directly into this important research.

Last year, the National Science Foundation spent $1.3 billion on overhead or indirect costs—nearly 20 percent of the research budget. The National Institute of Health spends $6.3 billion on indirect costs—27 percent of the $24 billion extramural research budget. In a time of tough budgets, when only one out of five research grant proposals are funded, which we all know is too little, we must look at whether or not those overhead funds are being spent efficiently because we want to make sure more of those projects can be funded.

There is no question that there are legitimate and necessary overhead costs for conducting the best research in the world.

Since World War II, the federal government, Universities, and nonprofit research institutions have worked in partnership to conduct research in our nation's interest. This partnership has served our nation well, spurring innovation to new heights. Universities and nonprofits provide laboratory space, pay the electric bills, buy equipment, and conduct accounting for federally funded research, while the federal government shares the cost by reimbursing certain expenses.

However, over time that system has become more complex and in some cases more expensive, as we will hear from our witnesses today. Adding to that complexity is that since the 1960s, every institution negotiates its own indirect cost rate directly with the federal government. Today, indirect cost rates for universities and in-

stitutions vary widely from less than one percent to over 60 percent. It raises a question of whether or not we have inadvertently created a system of have and have nots, where wealthy institutions benefit the most.

Last year, Dr. Angel Cabrera, President of George Mason University—a University that serves many in my district—testified before the Subcommittee on the struggles of leading one of the fastest growing research institutions in the country, trying to break into the top tier while keeping tuition and fees low. I have a letter I am submitting for the hearing record from George Mason's Vice President for Research, Deborah Crawford, on how GMU uses overhead costs. I appreciate George Mason's input, and their commitment to transparency and keeping education costs low.

One of my priorities as Chair of the Research and Technology Subcommittee is to make sure we are always maximizing the taxpayers' important investment in basic and fundamental research. It is important we give taxpayers confidence in how that investment is spent, so that we can continue to sustain and grow research funding. Ultimately, research is about creating good jobs and a secure future, a common goal I know we all share.

And with that, I look forward to hearing the testimonies of our guests.

[The prepared statement of Chairwoman Comstock follows:]



COMMITTEE ON
SCIENCE, SPACE, & TECHNOLOGY
Lamar Smith, Chairman

For Immediate Release
May 24, 2017

Media Contact: Kristina Baum
(202) 225-6371

Statement of Research and Technology Subcommittee Chairwoman Barbara Comstock (R-Va.)

Examining the Overhead Cost of Research

Chairwoman Comstock: The purpose of today's hearing is to examine the overhead costs of research, including how the National Science Foundation and other federal agencies negotiate and monitor these costs, how these funds are used, and to hear recommendations for improving efficiency and transparency.

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However, over time that system has become more complex and in some cases more expensive, as we will hear from our witnesses today.

Adding to that complexity is that since the 1960's, every institution negotiates its own indirect cost rate directly with the federal government. Today, indirect cost rates for universities and institutions vary widely from less than 1 percent to over 60 percent.

It raises a question of whether or not we have inadvertently created a system of "have and have nots," where wealthy institutions benefit the most.

Last year, Dr. Angel Cabrera, President of George Mason University – a University partially in my district – testified before the Subcommittee on the struggles of leading one of the fastest growing research institutions in the country, trying to break into the top tier while keeping tuition and fees low.

I have a letter I am submitting for the hearing record from George Mason's Vice President for Research, Deborah Crawford on how GMU uses overhead costs. I appreciate GMU's input, and their commitment to transparency and keeping education costs low.

One of my priorities as chair of the Research & Technology Subcommittee is to make sure we are always maximizing the taxpayer's important investment in basic and fundamental research.

It is important we give taxpayers confidence in how that investment is spent, so that we can continue to sustain and grow research funding.

Ultimately, research is about creating good jobs and a secure future, a common goal I know we all share.

And with that, I look forward to hearing the testimonies of our guests.

###

Chairwoman COMSTOCK. I now recognize the Ranking Member of the Research and Technology Subcommittee, Mr. Lipinski, for his opening statement.

Mr. LIPINSKI. Thank you, Chairwoman Comstock and Chairman LaHood, for calling this hearing. This is an important oversight topic, and I thank our panelists for being here to share their perspectives.

There's always been some discussion within the research community about federal reimbursement for costs incurred by organizations that conduct research funded by the federal government, that is, work essentially done on behalf of the government. While most agree that direct costs for this research should be fully reimbursed by the federal government, opinions diverge when considering the extent of reimbursement for indirect costs, or overhead.

Overhead costs incurred by universities provide the services that make cutting-edge research possible, such as electricity, chemical and radiation safety, libraries and research facilities, financial accounting, data storage and internet access, and many others. Indirect costs also include the support necessary to comply with the high administrative burden that comes with federal research funding. As the Chairwoman mentioned, I've worked with her on this Committee to reduce some of this administrative burden, and there is more bipartisan work that we should do in easing this burden.

The bottom line is that indirect cost reimbursement is essential to American universities' capacity to execute their research as well as train the next generation of scientists and engineers that our country needs. NSF is not the cognizant agency for indirect cost negotiations for universities. However, universities account for approximately 90 percent of the total amount budgeted by NSF for indirect costs each year. We may address NSF's role in setting rates for nonprofits and small businesses, but the bulk of this debate centers around major research universities.

There are many strictly enforced controls and regulations on reimbursement for indirect costs. One such control is that indirect cost reimbursements are based on modified total direct costs rather than total direct costs, excluding expenses such as graduate student tuition and equipment purchases, which are not expected to require extensive facilities or administrative support. As a result, indirect cost reimbursement rates as a percentage of total direct costs are much lower than the more commonly stated negotiated rates. According to Nature magazine, the average negotiated rate is 53 percent, but the average reimbursed rate is only 34 percent. I think it's important that we're all on the same page about exactly what these rates mean, and that we don't let large numbers mislead us.

Some have expressed concern that administrative inefficiencies and conflicts of interest have led to rising indirect costs. The evidence does not seem to bear this out. Based on Mr. Neumann's testimony, GAO has not found that to be the case for NSF. GAO has expressed concern about possible rising rates at NIH, but NIH disputes GAO's analysis.

Some of our top universities believe that the government is not paying them a fair amount for the research they conduct. It's my understanding that for every federal dollar a university is awarded

for research, the university contributes 30 to 40 cents of its institutional funds to make that research possible. At the University of Illinois, in fiscal year 2016, only 76 percent of actual indirect costs incurred on NSF grants were reimbursed, meaning that the university contributed $9.1 million of its own funds to close the indirect cost gap for its NSF grants alone.

Annual university subsidies amounting to hundreds of millions of dollars nationwide clearly demonstrate a willingness on behalf of research universities to contribute their own resources to the research conducted at their institutions. Sometimes, these subsidies even support the research infrastructure that NSF, as part of its mission, aims to provide. For example, the University of Illinois is home to the Extreme Science and Engineering Discovery Environment, an NSF-funded user facility that supports other universities, research facilities, and NSF-funded projects around the country and the world. As with all NSF-funded projects at the U of I, the facility's overhead costs are partially subsidized by the university, representing a contribution by the university to the national research infrastructure.

Universities undoubtedly benefit from hosting prestigious research programs that enable them to recruit preeminent scientists and top students and spin off local companies and jobs. Yet it is hard for me to understand the argument by some that universities are making a profit. All of the evidence I have seen suggests otherwise.

Furthermore, federally funded research is a public good. I consider it a win-win that it also benefits local economies.

These are good debates to have and critical questions to address when talking about the health of the partnership between the federal government and research universities. I think we can all agree that we want this partnership to succeed at producing research that remains the envy of the world for many years to come.

Thank you, again, to our witnesses for being here. I look forward to your testimony and a fruitful discussion on this important issue.

I yield back the balance of my time.

[The prepared statement of Mr. Lipinski follows:]

OPENING STATEMENT
Ranking Member Dan Lipinski (D-IL)
of the Subcommittee on Research and Technology

Committee on Science, Space & Technology
Subcommittee on Oversight
Subcommittee on Research & Technology
"Examining the Overhead Cost of Research"
May 24, 2017

Thank you, Chairwoman Comstock and Chairman LaHood, for calling this hearing. This is an important oversight topic and I thank our panelists for being here to share their perspectives.

There has always been some discussion within the research community about federal reimbursement for costs incurred by organizations that conduct research funded by the federal government, that is, work essentially done on behalf of the government. While most agree that direct costs for this research should be fully reimbursed by the federal government, opinions diverge when considering the extent of reimbursement for indirect costs, or overhead.

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NSF is not the cognizant agency for indirect cost negotiations for universities. However, universities account for approximately 90 percent of the total amount budgeted by NSF for indirect costs each year. We may address NSF's role in setting rates for non-profits and small businesses, but the bulk of this debate centers around major research universities.

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These are good debates to have and critical questions to address when talking about the health of the partnership between the federal government and research universities. I think we can all agree that we want this partnership to succeed at producing research that remains the envy of the world for many years to come.

Thank you, again, to our witnesses for being here. I look forward to your testimony and a fruitful discussion on this important issue. I yield back the balance of my time.

Chairwoman COMSTOCK. Thank you, Mr. Lipinski, and I now recognize the Chairman of the Oversight Subcommittee, Mr. LaHood, for an opening statement.

Chairman. LAHOOD. Thank you, Chairwoman Comstock and Ranking Member Lipinski. Good morning and welcome to today's hearing: "Examining the Overhead Cost of Research." I would like to welcome today's witnesses to our hearing and thank each of you for your attendance today.

The purpose of today's hearing is to examine opportunities to stimulate innovative research at universities and nonprofit research institutions, while assessing measures to reduce overhead costs of conducting research.

As part of our hearing today, we want to foster a discussion regarding whether we are directing precious taxpayer resources toward research in the most efficient and effective manner. Part of our discussion today will include learning more about how the National Science Foundation, charged with administering federal grant funds for countless research institutions, negotiates indirect costs rates, as well as the share of indirect costs in cumulative grant funding.

We will hear from GAO today about a new study, finding that the growth of indirect costs at NSF has exceeded the growth of direct research costs and recommending improvements for better cost controls. As part of its study, GAO found that from 2000 to 2016, indirect costs represented 16 to 24 percent of NSF's total grant funds. In total, GAO found that for fiscal year 2016, NSF awards included about $1.3 billion for indirect costs, representing approximately 22 percent of the total $5.8 billion in grant awards for fiscal year 2016.

Further, during its analysis of NSF's fiscal year 2016 grant awards, GAO found that 90 percent of NSF's awards included indirect costs. GAO also discovered that the proportion of indirect costs ranged from less than one percent of the grant award to 59 percent of the grant award, in some cases.

GAO analyzed the types of awardees that budget for indirect costs, including federal, industry, small business, and universities, identifying universities as having some of the highest indirect cost rates.

As part of its review, GAO identified potential areas for improved oversight of awardees' use of indirect grants, including reporting information about indirect costs when awardees request reimbursement, enhancing NSF's online approach to award payments to include collecting information on indirect costs, and consistently following NSF's own guidance for tracking and setting indirect cost rates.

In light of GAO's study, we want to ensure we are doing our due diligence to further innovative research initiatives, while ensuring taxpayer dollars are expended in the most efficient way possible by directly furthering research.

As many in this room know, encouraging innovative research, like that conducted at universities and nonprofit institutions across this nation, is vital to the long-term success of our economy and our nation.

Close to my own district, I have seen this work firsthand at truly outstanding research institutions, like the University of Illinois-Urbana and Western Illinois University in Macomb. My district is also located close to the National Center for Supercomputing Applications located on the campus of the University of Illinois, which houses the Blue Waters supercomputer. This is one of the most powerful computers in the world, and it is capable of algorithms that can help inform a broad range of research, ranging from tax and budget-based research to cybersecurity. Western Illinois University, along with other research institutions, use the Blue Waters supercomputer to conduct innovative research that helps empower scientists and researchers across the world by informing novel research initiatives.

During my time in Congress, I have made it my priority to help support these endeavors. In fact, last Congress, I sponsored the Networking and Information Technology Research and Development Modernization Act (NITRD), which was designed to help bolster policies for research related to high-end computing, cybersecurity, and high capacity systems software. This legislation aims to reduce bureaucracy and red tape that so often hampers innovative research initiatives, while ensuring that taxpayer dollars are spent effectively. It is my goal that the NITRD legislation, which was passed by the House of Representatives last Congress, as well as similar pieces of legislation, will be a core part of the 115th Congress's agenda and assist universities and research institutions in pursuing much-needed and potentially revolutionary new research.

As we are conducting this groundbreaking research, we must—we cannot forget whose money we are spending. We must all strive to be good stewards of taxpayer dollars.

I hope that today's hearing will help us examine some of the issues that may be hampering innovative research, such as rising overhead costs. Universities and nonprofit research institutions are at the forefront of innovative inquiries and studies that often result in lasting implications to help better our society technologically. Understanding that research is essential to furthering U.S. innovation as we in Congress must learn how we can increase effectiveness of taxpayer dollars used to fund research.

I know each of the witnesses here today will help encourage a fruitful and engaging discussion and provide insight on ways we can improve the efficiency of university research by examining overhead costs.

I thank each of the witnesses for their testimony today and look forward to an informative discussion. Thank you.

[The prepared statement of Mr. LaHood follows:]



COMMITTEE ON
SCIENCE, SPACE, & TECHNOLOGY
Lamar Smith, Chairman

For Immediate Release
May 24, 2017

Media Contact: Kristina Baum
(202) 225-6371

Statement of Oversight Subcommittee Chairman Darin LaHood (R-Ill.)
Examining the Overhead Cost of Research

Chairman LaHood: Good morning and welcome to today's hearing: "Examining the Overhead Cost of Research."

I would like to welcome today's witnesses to our hearing and thank each of you for your attendance today. The purpose of today's hearing is to examine opportunities to stimulate innovative research at universities and non-profit research institutions, while assessing measures to reduce overhead costs of conducting research.

As part of our hearing today, we want to foster a discussion regarding whether we are directing precious taxpayer resources toward research in the most efficient and effective manner. Part of our discussion today will include learning more about how the National Science Foundation, charged with administering federal grant funds for countless research institutions, negotiates indirect costs rates, as well as the share of indirect costs in cumulative grant funding.

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As many in this room know, encouraging innovative research, like that conducted at universities and non-profit institutions across this nation, is vital to the long-term success of our economy and our nation. Close to my own district, I have seen this work first-hand at truly outstanding research institutions, like the University of Illinois-Urbana and Western Illinois University.

My district is also located close to the National Center for Supercomputing Applications (NSCA), located on the campus of the University of Illinois, which houses the Blue Waters supercomputer. This is one of the most powerful computers in the world, and it is capable of algorithms that can help inform a broad range of research, ranging from tax and budget-based research to cybersecurity. Western Illinois University, along with other research institutions, use the Blue Waters supercomputer to conduct innovative research that helps empower scientists and researchers across the world by informing novel research initiatives.

During my time in Congress, I have made it my priority to help support these endeavors. In fact, last Congress, I sponsored the Networking and Information Technology Research and Development (NITRD) Modernization Act, which was designed to help bolster policies for research related to high-end computing, cybersecurity, and high capacity systems software. This legislation aims to reduce bureaucracy and red tape that so often hampers innovative research initiatives, while ensuring that taxpayer dollars are spent effectively.

It is my goal that the NITRD legislation, which was passed by the House of Representatives last Congress, as well as similar pieces of legislation, will be a core part of the 115th Congress's agenda and assist universities and research institutions in pursuing much-needed and potentially revolutionary new research.

As we are conducting this ground-breaking research, we cannot forget whose money we are spending. We must all strive to be good stewards of taxpayer dollars. I hope that today's hearing will help us examine some of the issues that may be hampering innovative research, such as rising overhead costs.

Universities and non-profit research institutions are at the forefront of innovative inquiries and studies that often result in lasting implications to help better our society technologically. Understanding that research is essential to furthering U.S. innovation, we as Congress want to learn how we can increase the effectiveness of taxpayer dollars used to fund research.

I know each of the witnesses here today will help encourage a fruitful and engaging discussion and provide insight on ways we can improve the efficiency of university research by examining overhead costs. I thank each of the witnesses for their testimony today and look forward to an informative discussion.

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Chairwoman COMSTOCK. Thank you, Mr. LaHood.

And I now recognize the Ranking Member of the Oversight Committee, Mr. Beyer, for his opening statement.

Mr. BEYER. Thank you, Chairwoman Comstock, and thank you, Chairman LaHood, for having this hearing today.

I generally agree with the questions raised by Ranking Member Lipinski about overhead costs on federally funded research but I also want to emphasize the importance of the National Science Foundation and our other science agencies in spurring innovation, economic growth, and technological advancements in multiple arenas.

I'm a small business owner, and I understand that indirect costs—overhead—are still costs that have to be covered and funded. I cannot run my automobile dealerships without electricity for light, heat, the tools, without accountants to manage our budgets, without IT gurus to maintain the computers that manage every aspect of our inventory and sales processes, and without the mortgages on our buildings. These kinds of overhead costs are just as necessary to run a science lab as they are to operate an automobile dealership.

Of course, we must always strive to improve the management of federal research grants, and of course, we must search for effective and efficient methods to spend and to oversee these funds. But should we drastically cut federal funds to science agencies that lead to innovative technological discoveries, as the Trump Administration has proposed? Absolutely not. These would be foolhardy decisions that would jeopardize our economic competitiveness and our ability to develop important national security technologies and make vital medical and other scientific advancements.

So I'm deeply concerned about efforts by this Administration, the budget we saw yesterday, to drastically reduce scientific funding to the National Institutes of Health, the Department of Energy, the Environmental Protection Agency, the National Oceanic Atmospheric Administration, the National Science Foundation, and many others. This shortsighted abandonment of our investment in science can only harm our economy, our health, our world leadership, and our ability to innovate in the middle and long term.

The National Science Foundation plays the fundamental, foundational role in funding scientific research in the United States: sine qua non. The NSF builds our scientific knowledge, improves our security, expands our economy, and helps us compete. Each year they award more than $7 billion in approximately 12,000 new grant awards to nearly 2,000 institutions. The National Science Foundation accounts for nearly one-quarter of all federal research funding for basic science conducted by America's colleges and universities.

Look, I don't think any Member of Congress is opposed to exploring reasonable and responsible opportunities to ensure that our federal funds are spent as efficiently and effectively as possible. Improvements in financial management are always possible and should be pursued but let's be fully aware of the unintended consequences of our actions. Let's be certain any changes we make keep the best scientists doing the most important work for the National Science Foundation. Let's make sure we're not initiating a

race to the bottom, with prizes to the lowest bidder doing the least valuable research.

I look forward to hearing the testimony of our witnesses, and I trust we'll have a constructive dialogue about the important role of the federal government in funding science.

Thanks, Madam Chair. I yield back.

[The prepared statement of Mr. Beyer follows:]

OPENING STATEMENT
Ranking Member Don Beyer (D-VA)
of the Subcommittee on Oversight

Committee on Science, Space, and Technology
Subcommittee on Oversight
Subcommittee on Research and Technology
"Examining the Overhead Cost of Research"
May 24, 2017

Thank you Chairwoman Comstock and Chairman LaHood for having this hearing today.

I generally agree with the questions raised by Ranking Member Lipinski about overhead costs on federally funded research. But I also want to emphasize the importance of the National Science Foundation and our other science agencies in spurring innovation, economic growth, and technological advancements in multiple arenas.

As a small business owner, I understand that indirect costs -- or overhead -- are still costs that need to be covered and funded. I cannot run my auto dealerships without electricity for light, heat, and the tools, without accountants to manage our budgets, without IT gurus to maintain the computers that manage every aspect of our inventory and sales processes, and without the mortgages on our buildings. These kinds of overhead costs are just as necessary to run a science lab as they are to operate an automobile dealership.

Of course, we must always strive to improve the management of federal research grants. Of course, we must search for effective and efficient methods to spend and to oversee these funds. But should we drastically cut federal funds to science agencies that lead to innovative technical discoveries, scientific breakthroughs and economic growth, as the Trump Administration has proposed? Absolutely not. These would be foolhardy decisions that would jeopardize our economic competitiveness and our ability to develop important national security technologies and make vital medical and other scientific advancements.

I am deeply concerned about efforts by this Administration to drastically reduce scientific funding to the National Institutes of Health, the Department of Energy, the Environmental Protection Agency, the National Oceanic Atmospheric Administration, and NSF, and many others. This shortsighted abandonment of our investment in science can only harm our economy, our health, our world leadership, and our ability to innovate in the middle and long term.

The National Science Foundation plays the fundamental, foundational role in funding scientific research in the United States. Sine qua non. The NSF builds our scientific knowledge, improves our security, expands our economy, and helps our nation compete technologically with the world. Each year the NSF provides more than $7 billion in approximately 12,000 new grant awards to nearly 2,000 institutions. The NSF accounts for nearly one-quarter of all federal research funding for basic science conducted by America's colleges and universities.

I don't think any Member of Congress is opposed to exploring reasonable and responsible opportunities to ensure federal funds are spent as effectively and efficiently as possible. Improvements in financial management are always possible and should be pursued. But let's be fully aware of the unintended consequences of our actions. Let's be certain any changes we make keep the best scientists doing the most important work on the National Science Foundation team. Let's make sure we are not initiating a race to the bottom, with prizes to the lowest bidder doing the least valuable research.

I look forward to hearing the testimony of our witnesses. I trust we will have a constructive dialogue about the important role the federal government plays in funding scientific research and just how we can make that process as effective and efficient as possible.

Thank you. I yield back.

Chairwoman COMSTOCK. Thank you, and I would point out that the Administration's budget proposal, like every other President's, is just a proposal, and Congress gets to decide on that, and this Committee has had a very strong record of supporting science and research.

So I now recognize Chairman Smith for his statement.

Chairman SMITH. Thank you, Madam Chair.

Congress allocates more than $6 billion per year of taxpayers' money to the National Science Foundation to support scientific research and education at universities and nonprofits. This investment contributes to American innovation, economic competitiveness and national security.

Congress also authorizes the NSF and other federal science agencies to reimburse universities and nonprofit research institutions for the overhead expenses they incur for federally supported research projects. These are called indirect costs. Indirect costs are allowed in order to pay for such expenses as light and water bills for university laboratories, security services, and compliance with federal regulations.

However, indirect costs have expanded and expanded again. One point three billion dollars of National Science Foundation's current annual research budget is now consumed by indirect cost payments to universities and research institutions. That is almost one-quarter of National Science Foundation's research budget. One point three billion dollars would pay for 2,000 more scientific research projects in critical areas like physics, biology, computer science and engineering. Science and innovation in these fields will improve our future economic and national security.

Universities and non-profits should certainly be reimbursed for reasonable costs of sponsoring federal-funded research. However, as we will hear today from the GAO, ongoing indirect costs consume a larger and larger share of funds for scientific research, and many universities are pressing to raise indirect costs even higher. In fact, some indirect costs rates have now reached 50 percent of the grant and higher.

There is no question that there are legitimate costs associated with carrying out the best research in the world. The question is, are taxpayers paying for these costs in an efficient and transparent manner, or are we unnecessarily subsidizing excess, bureaucracy and waste? Or is the National Science Foundation becoming just another source of revenue?

I recently met with a university president who described having to spend $1 million to build a new lab in order to recruit a high-profile scientist from another institution. Why should taxpayers foot the bill for this scenario?

Another ongoing investigation of a researcher, who received millions in NSF grants over the years, revealed that he used indirect funding to pay his salary as president of the nonprofit institution as well as administrative salaries for his family members. Why was this allowed to happen, and how does National Science Foundation monitor the use of indirect funds?

Our challenge is to ensure America remains first in the global marketplace of ideas and products, without misusing taxpayer dollars. We must conduct research efficiently and responsibly so that

taxpayers know they are getting good value for their investment in our nation's scientific research and innovation effort.

Madam Chair, I look forward to hearing from our panel of witnesses today about how indirect cost rates are negotiated and monitored, how the funding is used, and how we can better control overhead costs, including possible caps or other limitations.

I'll yield back.

[The prepared statement of Chairman Smith follows:]

COMMITTEE ON
SCIENCE, SPACE, & TECHNOLOGY
Lamar Smith, Chairman

For Immediate Release
May 24, 2017

Media Contact: Kristina Baum
(202) 225-6371

Statement of Chairman Lamar Smith (R-Texas)
Examining the Overhead Cost of Research

Chairman Smith: Congress allocates more than $6 billion per year of taxpayers' money to the National Science Foundation (NSF) to support scientific research and education at universities and non-profits.

This investment contributes to American innovation, economic competitiveness and national security.

Congress also authorizes the NSF and other federal science agencies to reimburse universities and non-profit research institutions for the overhead expenses they incur for federally supported research projects – called indirect costs.

Indirect costs are allowed in order to pay for such expenses as light and water bills for university laboratories, security services, and compliance with federal regulations.

However, indirect costs have expanded and expanded again. $1.3 billion of NSF's current annual research budget is now consumed by indirect cost payments to universities and research institutions. That is almost one-quarter of NSF's research budget.

$1.3 billion would pay for 2,000 more scientific research projects in critical areas like physics, biology, computer science and engineering. Science and innovation in these fields will improve our future economic and national security.

Universities and non-profits should certainly be reimbursed for reasonable costs of sponsoring federal-funded research.

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There is no question that there are legitimate costs associated with carrying out the best research in the world. The question is, are taxpayers paying for these costs in an efficient and transparent manner, or are we unnecessarily subsidizing excess, bureaucracy and waste? Or is the NSF becoming just another source of revenue?

I recently met with a university president who described having to spend $1 million to build a new lab in order to recruit a high-profile scientist from another institution. Why should taxpayers foot the bill for this scenario?

Another ongoing investigation of a researcher, who received millions in NSF grants over the years, revealed that he used indirect funding to pay his salary as president of the non-profit institution as well as administrative salaries for his family members. Why was this allowed to happen, and how does NSF monitor the use of indirect funds?

Our challenge is to ensure America remains first in the global marketplace of ideas and products, without misusing taxpayer dollars.

We must conduct research efficiently and responsibly so that taxpayers know they are getting good value for their investment in our nation's scientific research and innovation effort.

I look forward to hearing from our panel of witnesses about how indirect cost rates are negotiated and monitored, how the funding is used, and how we can better control overhead costs, including possible caps or other limitations.

###

Chairwoman COMSTOCK. I now recognize briefly Mr. Perlmutter for an introduction.

Mr. PERLMUTTER. Thanks, Madam Chairwoman, and I appreciate the moment of personal privilege.

The Chairwoman was bragging a little bit about George Mason. My friends, Mr. LaHood and Lipinski, were bragging about the University of Illinois.

Chairman SMITH. Here it comes.

Mr. PERLMUTTER. Well, I actually get to brag about the University of Colorado. There are five budding scientists from the university here today in physiology, molecular, cellular and developmental biology, neuroscience, public health, and environmental biology. So if the students from the University of Colorado CU Boulder, would you please stand so everybody can see you?

So my university takes these subjects very seriously, and I'd just like to thank you all for being here and listening to this, what is kind of a dry subject but very important to universities and how they receive their grants.

So thank you for being scientists, thank you for coming to the Congress of the United States and listening to the Science Committee.

And with that, I'd yield back to the Chairwoman.

Chairwoman COMSTOCK. Thank you, and I appreciate the students. Welcome, and nice to see so many young women scientists here. So thank you.

I'll now introduce our witnesses. Our first witness today is Mr. Dale Bell, Division Director for Institution and Award Support at the National Science Foundation. In this position, Mr. Bell provides oversight across NSF's financial assistance awards through NSF policy and business systems requirements as well as cost analysis and awardee monitoring. Prior to NSF, Mr. Bell worked across the federal sector as a consultant for program execution management and strategic planning. He has a bachelor's degree in political science from the Johns Hopkins University and a master's degree from Georgetown University School of Business.

Our second today is Mr. John Neumann, Director of Natural Resources and Environment at the U.S. Government Accountability Office. With over 25 years of experience, he leads auditing efforts in the science and technology area including the management and oversight of federal research and development programs, protection of intellectual property, and federal efforts to support innovation. He graduated cum laude with a Bachelor of Arts degree in political science from the State University of New York at Stony Brook and holds a master's of business administration from American University. Mr. Neumann also earned a juris doctorate from Georgetown University.

Our third witness today is Mr. James Luther, Associate Vice President of Finance and Compliance at Duke University. He also serves as Chairman of the Board of the Council on Governmental Relations. Mr. Luther's responsibilities include post-award areas in asset management oversight for the University and School of Medicine, negotiation of Duke's indirect cost and fringe benefit rates, and all aspects of Duke's research costing compliance program. He

earned his bachelor's of science in engineering from the United States Naval Academy and a master of arts from Duke.

Our fourth witness today is Dr. Richard Vedder, Distinguished Professor of Economics Emeritus at Ohio University, in Athens, Ohio. Dr. Vedder has been an economist with the Joint Economic Committee of Congress, a Fellow of the George W. Bush Institute, and an Adjunct Scholar at the American Enterprise Institute. He also directs the Center for College Affordability and Productivity. Dr. Vetter has written over 100 scholarly papers published in academic journals and books on the U.S. economy and public policy including the book Going Broke by Degree: Why College Costs Too Much. He received his Ph.D. in economics from the University of Illinois.

I now recognize Mr. Bell for five minutes to present his testimony.

TESTIMONY OF MR. DALE BELL,
DIVISION DIRECTOR,
INSTITUTION AND AWARD SUPPORT,
NATIONAL SCIENCE FOUNDATION

Mr. BELL. Chairman Smith, Chairman Comstock, Ranking Member Lipinski, Chairman LaHood, Ranking Member Beyer, and distinguished members of the Research and Technology and Oversight Committees. My name is Dale Bell, and I serve as the Division Director for the Division of Institution and Award Support at the National Science Foundation. I appreciate the opportunity to testify before you this morning, and I'd like to say that this is a sexy topic for me, so thank you for the opportunity.

Since its establishment in 1950, the mission of NSF has been to promote the progress of science, to advance the national health, prosperity and welfare, and to secure the national defense. To do so, NSF awards grants and cooperative agreements with an eye toward advancing the scientific frontier to approximately 2,000 organizations consisting of colleges, universities, K–12 school systems, businesses, science associations, and other research organizations.

The federally sponsored research enterprise is a partnership between the federal government and the institutions performing the research. Both are committed to achieving mutually beneficial outcomes and both agree to share in the cost of enterprise that enables this research.

NSF reimburses awardees for direct costs such as salaries, equipment and travel that can be attributed to a specific project. NSF also funds indirect costs. Some call these overhead or facilities administration. These are costs which are not readily identifiable with a specific research project but are still necessary for the general operation to carry out the research. Examples of indirect costs may include laboratory occupancy costs, hazardous chemical and biological agent management, libraries, IT systems, data transmission and storage, radiation safety, insurance, administrative services, and compliance with government regulations including institutional review boards for human subject research. Note that only resources used for research are counted, and the federal government partially reimburses awardees for these expenses through the use of an indirect cost rate.

The amount of indirect costs budgeted to NSF awards has remained stable. Recent NSF analysis of data developed in the course of the GAO audit shows that annual funding for indirect costs across NSF's entire portfolio of awards averaged about 20 percent of the total amount awarded over the last 17 years.

NSF does not negotiate indirect cost rates for colleges and universities, which make up about 91 percent of NSF's awardees. Per the Office of Management and Budget's Uniform Guidance, indirect cost rate negotiation cognizance for all colleges and universities is assigned to the Department of Health and Human Services or the Department of Defense's Office of Naval Research.

NSF is the cognizant agency for negotiating indirect cost rates for about 100 of its over 2,000 awardee organizations, or about five percent. To put this in perspective, of the approximately 45,000 awards in NSF's active portfolio, over 98 percent were made to organizations that negotiate indirect cost rate agreements with other federal agencies.

Organizations for which NSF is the cognizant agency largely consistent of nonprofits such as independent research institutions, laboratories, museums, professional scientific societies, and foundations.

Accountability over indirect cost starts with the rate negotiation process. OMB Uniform Guidance sets requirements to be applied by all federal agencies. All entities for which has NSF has rate cognizance as required to regularly submit indirect cost rate proposals for review.

Calculating an indirect cost rate is an involved process. The negotiation process begins with submission of indirect cost rate proposals and supporting documentation. A rate negotiator, an expert in cost analysis, reconciles the proposal with the organization's audited financial statements and other financial information and ensures that costs have been allocated in accordance with the Uniform Guidance.

NSF exercises various forms of oversight over the application of the indirect cost rate. This includes single audits, incurred cost audits and other post-award monitoring efforts. In addition, NSF monitors the use of indirect costs through transaction testing as required under its implementation of the Improper Payments Act.

Excellence in stewardship is an NSF strategic goal. The agency welcomes the oversight provided by this Committee and the GAO.

NSF has already strengthened its internal procedures related to the indirect cost rate negotiation process as a result of the GAO engagement, and we remain a fully engaged partner in ensuring accountability for taxpayer investments in the federal research enterprise.

This concludes my oral testimony. More detail on the points I briefly highlighted today can be found in my written statement. I would be pleased to answer any questions you may have. Thank you.

[The prepared statement of Mr. Bell follows:]



Testimony of

William Bell
Division Director
Division of Institution and Award Support
National Science Foundation

Before the
Subcommittee on Research and Technology
and the
Subcommittee on Oversight

for the
Committee on Science, Space, and Technology
U.S. House of Representatives

May 24, 2017

"Examining the Overhead Cost of Research"

Madam Chairwoman, Mr. Chairman, and other distinguished members of the Research and Technology and Oversight Subcommittees, thank you for this opportunity to testify before you today. My name is Dale Bell and I have served as the National Science Foundation's (NSF) Division Director for the Division of Institution and Award Support since 2015, previously serving as Deputy Division Director since 2010.

Since its establishment in 1950, the mission of NSF has been "to promote the progress of science; to advance the national health, prosperity and welfare; [and] to secure the national defense…" To do so, NSF has provided funding with an eye toward advancing the scientific frontier by investing in the most innovative and promising new research and education projects. NSF does this by awarding grants and cooperative agreements to approximately 2,000 organizations consisting of colleges, universities, K-12 school systems, businesses, science associations, and other research organizations.

The grants and cooperative agreements that NSF awards to our Nation's universities, colleges, and other organizations are considered "assistance awards." Those are awards that "entail the transfer of money, property, services or other things of value from the Federal Government to a State or local government or other recipient to accomplish a public purpose of support or stimulation. Assistance awards involve the support or stimulation of scientific and engineering research, science and engineering education or other related activities."[1] Those grants and cooperative agreements include direct costs and indirect costs. I wish to emphasize that for our universities to be able to conduct the cutting-edge research that they do, both the direct and indirect are real costs that are essential to the conduct of research. Federally sponsored research is fundamentally a partnership between the Federal Government and institutions performing the research. Both are committed to achieving mutually beneficial outcomes, and both have demonstrated agreement to share in the costs of the enterprise. Studies have concluded that federal research grants cost universities more than is recouped through the direct and indirect costs, though measuring those costs is so complex that no definitive data is yet available. If the government does not pay for all costs associated with federally funded research, other entities will have to bear them, in effect subsidizing the federal government. Those costs may be borne through general fund dollars which include tuition, philanthropy, and other sources. Private sector funding of research – which is considerably less, in aggregate, then federal funding – generally does not carry indirect costs, or uses lower indirect cost rates. "Richer" institutions can make up additional indirect costs by utilizing endowments, but those sources are not always available in smaller institutions, minority serving institutions, and public universities.

Because the vast majority of NSF's funding goes directly to the Nation's universities and colleges through awards and cooperative agreements, NSF is mindful of the agency's responsibility to be a careful steward of taxpayer dollars. We were pleased that the American Innovation and Competitiveness Act (AICA) recognized the importance of reducing administrative burdens on federally funded researchers – while continuing to protect the public interest through the transparency of, and accountability for, federally funded activities. NSF looks forward to participating in the interagency working group that the Office of Management and Budget (OMB) is tasked with leading under the AICA.

The Members of this Committee, the NSF Office of Inspector General (OIG), and the Government Accountability Office (GAO) have all been helpful in supporting the agency's efforts to strengthen stewardship over taxpayer investments in the research enterprise. NSF looks forward to the release of the forthcoming GAO report that the Committee requested, which reviewed the processes and practices with which NSF determines indirect cost rates, to help ensure efficient and effective use of taxpayer dollars for science research and education. NSF appreciates the considerable study undertaken by the GAO on this topic.

Indirect costs are real and necessary costs of conducting research. They represent expenditures for shared services (e.g., facilities, laboratory supplies, utilities, computer networking, data storage, administrative support, government-mandated audits) incurred in the performance of, and integral to, research. The Federal Government has a longstanding practice of funding both direct and indirect costs. Unless paired with reductions in regulatory and administrative burdens, curtailing or ceasing reimbursement of indirect costs could include increases in tuition and adverse impacts on less well-endowed institutions (e.g., minority serving institutions, and two-year colleges).

[1] Federal Grant and Cooperative Agreement Act (31 U.S.C., 6301-08).

Background

I will provide an overview here of how NSF reimburses indirect costs. Our practices and policies are described in NSF's *Proposal and Award Policies and Procedures Guide* (PAPPG), along with NSF's *Grant General Conditions*, and the Office of Management and Budget's (OMB*) Uniform Administrative Requirements, Cost Principles, and Audit Requirements for Federal Awards*[2] *(Uniform Guidance).*

NSF reimburses awardees for direct costs, such as salaries, equipment, and travel that can be attributed to a specific project. NSF also funds indirect costs, which are those costs which are not readily identifiable with a particular cost objective directly tied to a specific research project, but that are necessary for the general operation of an organization and are difficult to allocate to individual research awards. Examples of indirect costs may include laboratory occupancy costs (rent, utilities, office supplies), hazardous chemical and biological agency management, libraries, internet, data transmission and storage, radiation safety, insurance, administrative services, and compliance with federal, state, and local regulations (e.g. Institutional Review Boards for human subject or animal research). Note that only resources utilized for research are counted, and the federal government partially reimburses awardees for these expenses.

Indirect costs are charged to federal awards through the use of an indirect cost rate. The indirect cost rate is used as a means to reimburse the awardee organization for the portion of shared expenses that the sponsored project used in the course of conducting its research and do not represent profit or fee. To calculate its indirect cost rate, the organization divides its claimed indirect costs (the indirect pool) by an equitable distribution base (the direct cost base). This calculation is done at the organization level; not on an award-by-award basis. The resulting percentage is the proposed indirect cost rate.

Specific guidelines for the construction of both the pool and the base are contained within the *Uniform Guidance*. Indirect cost rates for individual institutions are generally negotiated annually on behalf of the Federal Government by the cognizant agency for indirect costs. Per the *Uniform Guidance*, the cognizant agency is the federal agency that provides the predominance of direct federal funding to an awardee in a given year. The *Uniform Guidance* requires that the rate negotiated by the cognizant agency must be accepted by all federal agencies, except in certain circumstances where a different rate may be required by Federal statute or regulation. NSF complies with this requirement, and requires awardee organizations to charge indirect costs to NSF awards using the rates established by their cognizant federal agency.

NSF-Funded Indirect Costs

The amount of indirect costs budgeted to NSF awards has remained stable. Recent NSF analysis[3] of data developed in the course of the GAO audit shows that annual funding for indirect costs across NSF's entire portfolio of awards averaged 20 percent of the total amount awarded over the 17-year period from fiscal year 2000 to fiscal year 2016. NSF's current active award portfolio consists of approximately 45,000 awards. Of NSF's total funding obligation of $37.4 billion to support this portfolio, $7.3 billion (19.5%) has been requested for indirect costs.[4]

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[2] NSF Proposal & Award Policies & Procedures Guide (NSF 17-1, January 30, 2017); see https://www.nsf.gov/pubs/policydocs/pappg17_1/index.jsp. Office of Management and Budget, *Uniform Administrative Requirements, Cost Principles, and Audit Requirements for Federal Awards*, 2 CFR 200, (Washington, D.C.: December 2014).

[3] GAO Analysis of data provided by National Science Foundation.

[4] NSF makes most of its awards for multiple years. Therefore, NSF's active portfolio—awards currently being expended—includes more awards than NSF makes in a given year. NSF's active portfolio includes all current awards regardless of the fiscal year in which they were made, and it continuously changes as new awards are made and previous years' awards are closed.

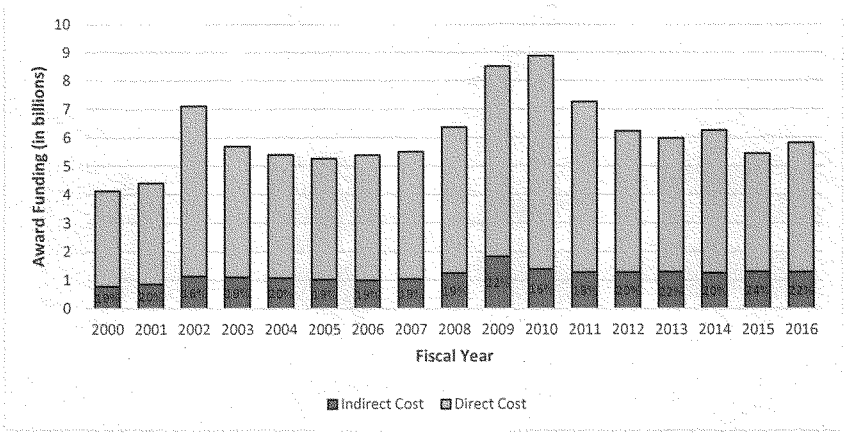


Figure 1: Analysis of NSF-Funded Direct and Indirect Costs, Fiscal Years 2000-2016

NSF is the cognizant agency for negotiating indirect costs for only 100 of its over 2,000 awardee organizations. Of the approximately 45,000 awards in NSF's current portfolio, 98.5% were made to organizations that negotiate indirect cost rate agreements with other federal agencies. Organizations for which NSF holds indirect cost rate cognizance consist of non-profit organizations, such as independent research institutes, laboratories, museums, and professional scientific societies, foundations, and consortiums.

Unlike many other federal agencies, NSF does not hire researchers or directly operate laboratories or similar facilities. Instead, NSF supports scientists, engineers and educators directly through their home institutions (typically colleges and universities). Colleges and universities comprise 91% of NSF's awardees.

NSF does not negotiate indirect cost rates for colleges and universities. Per the *Uniform Guidance*, indirect cost rate negotiation cognizance for all Institutions of Higher Education (IHEs) is assigned to the Department of Health and Human Services (HHS) or the Department of Defense's Office of Naval Research (DoD), depending on which of the two agencies (HHS or DoD) provides more funds to the educational institution for the most recent three years. Indirect cost rates negotiated for colleges and universities are regulated by the *Uniform Guidance*, which requires that institutions identify indirect costs by cost groupings – Depreciation, Interest, Operation and Maintenance Expenses, General Administration and General Expenses, Departmental Administration Expenses, Sponsored Projects Administration, Library Expenses, and Student Administration and Services. The *Uniform Guidance* sets a recovery cap of 26% on all administrative components of the indirect costs; any indirect costs exceeding the 26% cap are absorbed by the IHE. This cap on administrative costs has been in place since 1991.

Oversight, Accountability, and Stewardship

Accountability over indirect costs starts with the rate negotiation process. The *Uniform Guidance* sets requirements to be applied by all Federal agencies. All entities for which NSF has rate cognizance are required to regularly submit indirect cost rate proposals for review. The negotiation process[5] begins with submission of that proposal and supporting documentation. The proposal contains a calculated indirect cost rate based on actual cost data for a period (usually the organization's fiscal year), schedules that support the rate calculation, a Cost Policy Statement (CPS) or similar document that states how categories of costs are accounted for at the organization, actual financial data (audited financial statements and/or tax returns), single audit reports, and organizational policies and procedures. A Certification of Indirect Costs, mandated by the *Uniform Guidance*, requires the organization to certify that the proposal has been prepared in accordance with the prevailing cost principles, has been screened for unallowable and unallocable costs, and assurance that costs incurred in support of lobbying activities have been removed from the indirect cost pool.

When reviewing a proposal from an organization for which NSF is the cognizant agency, a rate negotiator, an expert in cost analysis, verifies reconciliation of the rate calculation to the financial data provided and accuracy of the rate itself, especially ensuring that costs have been allocated as indirect, direct, or excluded in accordance with the *Uniform Guidance* or prevailing cost principles. The rate negotiator also reviews the costs included in the indirect cost pool to screen for any potential unallowable costs that may not have been removed, and to confirm that the calculation has been constructed in a manner consistent with the organization's CPS. A trend analysis is also constructed, which allows the rate negotiator to identify any large increases or decreases to individual components of the pool. Based on this analysis, the negotiator recommends adjustments to both the pool and the base. The resulting negotiated rate is issued to the awardee using a Negotiated Indirect Cost Rate Agreement (NICRA) which is signed by NSF officials and the organization. The NICRA is honored by all federal agencies going forward, consistent with the *Uniform Guidance*. Indirect cost rates are negotiated for a defined period of time, generally the organization's fiscal year. Typically, an organization initiates a new indirect cost rate negotiation annually. NSF documents its indirect cost rate negotiation process in standard operating guidance, which are reviewed annually as part of NSF's internal control framework.

NSF exercises oversight of the application of indirect cost rates primarily through the audit process. Single Audit requirements under the *Uniform Guidance* (previously OMB circular A-133 / Single Audit Act) outline steps to be taken by the independent audit firm specific to indirect costs. These steps include review of the indirect cost rate calculation (pool and base) and application of the approved rate to claimed indirect costs on individual awards. Single Audits are required for awardee organizations, excluding for-profits, that expend more than $750,000 in federal resources during the previous fiscal year. In addition to Single Audits, NSF Management procures its own audits of selected Large Facility Projects. These audits include an assessment of incurred costs for construction and operations. Incurred cost audits include a review of direct and indirect costs claimed. The NSF OIG Audit Office also performs incurred cost audits of NSF awardees. NSF Management is responsible for resolving all issues raised in these audit reports. NSF post-award advanced monitoring efforts includes site visits and desk reviews of awardee organizations that manage NSF's highest risk awards. These activities may include a module verifying amounts drawn down on NSF awards which would entail a verification of appropriate application of the indirect cost rate.

[5] See http://www.nsf.gov/bfa/dias/caar/docs/idcsubmissions.pdf for indirect cost rate proposal submission requirements.

In addition, NSF transaction testing under its implementation of the Improper Payments Act includes monitoring of indirect costs. If selected transactions represent charges for indirect costs then the review would include verification of the awardees' use of the appropriate indirect cost rate application.

Excellence in stewardship is an NSF strategic goal. The agency welcomes the oversight provided by this Committee, the NSF OIG, and the GAO, and remains a fully engaged partner in ensuring accountability for taxpayer investments in the federal research enterprise.

Conclusion

Madam Chairwoman, Mr. Chairman, and members of the Subcommittees, I hope my testimony clearly explains NSF's policies and role in negotiating and monitoring indirect costs. I hope too that I have been clear that the total NSF investment – both the direct and indirect costs – are critical to the ongoing advancement of US science. This concludes my testimony. I will be pleased to answer any questions the Members may have.

William Bell
Division Director
Division of Institution and Award Support
National Science Foundation

Mr. William (Dale) Bell currently serves as Division Director for Institution and Award Support (DIAS) at the National Science Foundation (NSF), a position he has held since July 2015. Mr. Bell served as Deputy Division Director of DIAS beginning in February 2010. Through the Division, Mr. Bell provides oversight across the lifecycle of NSF's financial assistance awards through the development and implementation of NSF policy and business systems requirements, as well as cost analysis and awardee monitoring.

Prior to NSF, Dale worked across the federal sector as a consultant specializing in program execution, enterprise performance management, and strategic planning. He guided a number of federal programs through alignment of shared goals, strategic planning, and the establishment of effective performance measurements and management processes that drive performance. Positions included Principal at the SRA Touchstone Consulting Group, Senior Manager at the Unisys Corporation, and Manager at Andersen Office of Government Services.

Mr. Bell has a Bachelor's degree in Political Science from the Johns Hopkins University, and a Master's degree from Georgetown University's School of Business.

Chairwoman COMSTOCK. Thank you.
And we now recognize Mr. Neumann.

TESTIMONY OF MR. JOHN NEUMANN, DIRECTOR, NATURAL RESOURCES AND ENVIRONMENT, U.S. GOVERNMENT ACCOUNTABILITY OFFICE

Mr. NEUMANN. Thank you. Chairwoman Comstock, Chairman LaHood, Chairman Smith, Ranking Members Lipinski and Beyer, and members of the Subcommittee, thank you for the opportunity to be here today to discuss our ongoing work on the National Science Foundation's oversight of indirect costs on awards for scientific research and education.

NSF funds billions of dollars in awards each year to universities, elementary school systems, science associations, and other research organizations. For most awards, NSF reimburses awardees for both direct and indirect costs incurred. Direct costs such as salaries and equipment are those that can be attributed to a specific research project. Indirect costs are those that cover the genera operation of an awardee's organization such as the cost of operating and maintaining facilities or the salaries and expenses for general administration.

Today I'd like to provide some preliminary observations from our ongoing work that is focused on two areas: first, what is known about indirect costs of NSF awards over time, and secondly, the extent to which NSF has implemented guidance for setting indirect cost rates for the organizations it's responsible for.

Our first preliminary observation is that indirect costs on an NSF award range from 16 to 24 percent of the total amounts the agency awarded each year from 2000 to 2016. NSF has provided some explanation for the variation in indirect costs from year to year, and we are continuing to evaluate those factors.

Another observation related to this variation is that the average indirect costs also varied across types of awardees which included universities, small businesses, industry and others. Specifically, we observed that in fiscal year 2016, university awardees had the highest average indirect costs, about 27 percent, while industry had lower average indirect costs of 14 percent, and we're continuing to evaluate the reasons for that as well.

I should also note that our preliminary analysis of indirect costs is based on NSF budget data because NSF doesn't require awardees to report information about actual indirect costs separately from direct costs when requesting reimbursement for work done on a specific award.

In our review of NSF's guidance for setting indirect cost rates for the organizations it's responsible for, we also had several observation including that NSF staff did not consistently implement the guidance and the guidance itself did not include certain details. For example, in 2008, NSF created a database for tracking its active indirect cost rate proposals in response to recommendations made by the NSF Inspector General in a prior audit. However, NSF staff haven't consistently updated the data in its tracking system to reflect the current status of its indirect cost rate proposals.

Also, we observed that NSF guidance does not describe specific steps for supervisor review of the indirect cost rate proposals to en-

sure that only allowable and reasonable indirect costs have been proposed for NSF awards.

Lastly, we observed that NSF's guidance has not been updated to reflect changes from OMB's Uniform Guidance for Federal Awards, which became effective at the end of 2014.

In closing, I would note that we're continuing our ongoing work to examine NSF's data on indirect costs over time and its implementation of its guidance for setting indirect cost rates. As you know, NSF awards billions of dollars to organizations each year and it's essential that NSF ensures efficient and effective use of the federal science funding through its oversight of indirect costs.

This concludes my prepared remarks. I'm happy to respond to any questions you may have.

[The prepared statement of Mr. Neumann follows:]

United States Government Accountability Office

Testimony before the Subcommittee on Research and Technology and the Subcommittee on Oversight, Committee on Science, Space, and Technology, House of Representatives

For Release on Delivery
Expected at 10:00 a.m. ET
Wednesday, May 24th, 2017

NATIONAL SCIENCE FOUNDATION

Preliminary Observations on Indirect Costs for Research

Statement of John Neumann, Director,
Natural Resources and Environment

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GAO Highlights

Highlights of GAO-17-576T, a testimony before the Subcommittee on Research and Technology, and the Subcommittee on Oversight, Committee on Science, Space, and Technology, House of Representatives

May 24, 2017

NATIONAL SCIENCE FOUNDATION

Preliminary Observations on Indirect Costs for Research

Why GAO Did This Study

NSF awards billions of dollars to institutions of higher education (universities), K-12 school systems, industry, science associations, and other research organizations to promote scientific progress by supporting research and education.

NSF reimburses awardees for direct and indirect costs incurred for most awards. Direct costs, such as salaries and equipment, can be attributed to a specific project that receives an NSF award. Indirect costs are not directly attributable to a specific project but are necessary for the general operation of an awardee organization, such as the costs of operating and maintaining facilities. For certain organizations, NSF also negotiates indirect cost rate agreements, which are then used for calculating reimbursements for indirect costs. Indirect cost rate negotiations and reimbursements are to be made in accordance with federal guidance and regulation and NSF policy.

This testimony reflects GAO's preliminary observations from its ongoing review that examines (1) what is known about NSF's indirect costs for its awards over time, and (2) the extent to which NSF has implemented guidance for setting indirect cost rates for organizations. GAO reviewed relevant regulation, guidance, and agency documents; analyzed budget data, a nongeneralizable sample of nine indirect cost rate files from fiscal year 2016 selected based on award funding; and interviewed NSF officials.

What GAO Recommends

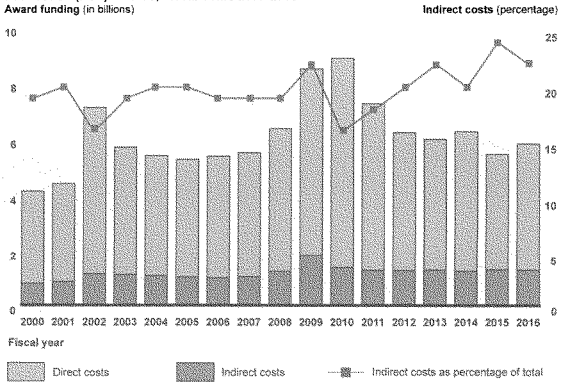
GAO is not making any recommendations in this testimony but will consider making recommendations, as appropriate, as it finalizes its work.

View GAO-17-576T. For more information, contact John Neumann at (202) 512-3841 or neumannj@gao.gov.

What GAO Found

GAO's preliminary analysis of National Science Foundation (NSF) data indicates that for fiscal years 2000 through 2016, indirect costs on NSF awards ranged from 16 percent to 24 percent of the total annual amounts awarded, though the percentage generally has increased since 2010 (see fig.). NSF officials stated that variation in indirect costs from year to year can be due to a variety of reasons, such as the types of organizations awarded and the disciplinary field of awards. GAO's observations are based on data from planned budgets on individual NSF awards, rather than actual indirect cost expenditures, because NSF does not require awardees to report indirect costs separately from direct costs in their reimbursement requests. According to NSF officials, collecting such information would unnecessarily increase the reporting burden on awardees.

Preliminary Analysis of Annual Direct and Indirect Costs Budgeted on National Science Foundation (NSF) Awards, Fiscal Years 2000-2016



Source: GAO analysis of NSF data. | GAO-17-576T

NSF has issued guidance for negotiating indirect cost rate agreements that includes procedures for staff to conduct timely and uniform reviews of indirect cost rate proposals. GAO's preliminary review of NSF's guidance and a sample of nine indirect cost rate files found that (1) NSF staff did not consistently follow guidance for updating the agency's tracking database with current data about some awardees, (2) the guidance did not include specific procedures for how supervisors are to document their review of staff workpapers, and (3) NSF had not updated the guidance to include procedures for implementing certain aspects of Office of Management and Budget guidance that became effective for grants awarded on or after December 26, 2014, such as the circumstances in which NSF can provide an awardee with an extension of indirect cost rates.

Chairwoman Comstock, Chairman LaHood, Ranking Members Lipinski and Beyer, and Members of the Subcommittees:

I am pleased to be here today to provide some preliminary observations from our ongoing review of the National Science Foundation's (NSF) oversight of indirect costs on awards to promote scientific progress by supporting research and education.[1] NSF funds billions of dollars in awards each year to institutions of higher education (universities), K-12 school systems, industry, science associations, and other research organizations. For example, NSF funds awards to support research on improving earthquake predictions; programs for increasing the number of students in science fields; and translation and online dissemination of scholarly research as a resource for scientists, historians, educators, and people involved in other areas of inquiry.

For most awards, NSF reimburses awardees for both direct and indirect costs incurred. Direct costs, such as salaries and equipment, can be attributed to a specific project that receives an NSF award. Indirect costs are not directly attributable to a specific project but are necessary for the general operation of an awardee organization. Such costs can include depreciation on buildings and equipment; the costs of operating and maintaining facilities; and general administration and expenses, such as salaries and expenses for management, personnel administration, and accounting.

To be reimbursed for indirect costs, organizations must properly identify and claim reimbursement for these costs in accordance with applicable federal guidance. The Office of Management and Budget's (OMB) *Uniform Administrative Requirements, Cost Principles, and Audit Requirements for Federal Awards* (Uniform Guidance);[2] the Federal Acquisition Regulation;[3] and NSF implementing policy govern how NSF is to reimburse indirect costs.

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[1]NSF awards include grants and cooperative agreements. A grant provides a specific level of support for an awardee to carry out an activity for a specified period of time. A cooperative agreement differs from a grant in that it provides for substantial involvement between NSF and the awardee in carrying out the activity supported by the award.

[2]Office of Management and Budget, *Uniform Administrative Requirements, Cost Principles, and Audit Requirements for Federal Awards*, 2 C.F.R. § 200 (Washington, D.C.: December 2014). In December 2014, NSF and other federal awarding agencies issued a joint interim final rule to implement this Uniform Guidance by incorporating it into their respective regulations for grants and agreements. NSF requested special accommodation from OMB with respect to the format of its implementing language. Specifically, NSF received approval from OMB to implement the Uniform Guidance using a policy rather than a regulation.

[3]Federal Acquisition Regulation, 48 C.F.R. pt. 31, *Contract Cost Principles and Procedures*, applies to for-profit organizations.

Under the Uniform Guidance and federal regulations, for an organization to be reimbursed for indirect costs, it generally must have a negotiated indirect cost rate agreement with its cognizant agency for indirect costs—the federal agency that is responsible for reviewing, negotiating, and approving the organization's indirect cost rate.[4] Because indirect costs cannot be specifically attributed to a particular research grant or cooperative agreement, they are allocated via an indirect cost rate that is applied to certain direct costs for each awarded grant. Federal agencies then use the indirect cost rate to reimburse indirect costs to the organization. The rate applies to all of the organization's federal awards that are eligible for indirect costs, even if some awards are made by agencies other than the cognizant agency.

NSF is the cognizant agency for certain organizations, particularly nonprofits, but not for universities. For nonprofit organizations, the Uniform Guidance assigns cognizance to the federal agency with the largest dollar value of federal awards given to the organization unless different arrangements are agreed upon by the federal agencies concerned.[5] As of February 2017, NSF's Cost Analysis and Audit Resolution Branch had cognizance over approximately 110 organizations, mostly nonprofit and professional societies, museums, and operators of large shared-use facilities (such as accelerators, telescopes, and research vessels) that receive the largest dollar value of their federal awards from NSF.[6] For universities, the Uniform Guidance assigns cognizance to the Department of Health and Human Services (HHS) or the Department of Defense (DOD), depending on which agency provided more funds to the university for the most recent 3 years.

To obtain an indirect cost rate, an organization submits a proposal with a proposed rate and supporting documentation (such as audited financial statements) to its cognizant agency. Generally, to calculate its proposed rate, an organization divides its total indirect costs (after adjustments) by the total direct costs across all of the organization's federal awards for a particular time period.[7] The resulting percentage is the proposed rate. After receiving a rate

[4]For the purposes of this testimony, the term cognizant agency refers to the federal agency with cognizance for indirect costs.

[5]Information on funding must be derived from relevant data gathered by NSF, according to the Uniform Guidance (2 C.F.R. § 200, Appendix III c(11)).

[6]According to NSF officials, the exact number of organizations for which NSF's Cost Analysis and Audit Resolution Branch has cognizance changes from year to year depending on how many organizations receive the largest dollar value of their federal awards from NSF.

[7]Adjustments include the removal of unallowable, unallocable, and unreasonable costs from the claimed indirect costs.

proposal, the cognizant agency is to verify the organization's mathematical accuracy, confirm that unallowable costs have been excluded in accordance with regulations and agency guidance, reconcile the cost proposal to the audited financial statements, and determine the reasonableness of the proposed costs. Once the proposal has been reviewed, the cognizant agency and the organization negotiate and finalize a rate. The rate is then documented in a formal agreement that sets the rate for a period of 1 to 4 years. This rate is used as a mechanism for determining the proportion of indirect costs that may be reimbursed for federally funded awards.

In prior reports, we have raised concerns about the growth of indirect costs and the process for setting indirect cost rates at the National Institutes of Health (NIH). In September 2013, we found that reimbursements for indirect costs increased faster than those for direct costs on NIH research grants awarded to universities for fiscal years 2002 through 2012.[8] In September 2016, we found deficiencies in cognizant agencies' design of internal controls for setting rates for organizations that received NIH awards.[9] We found that these deficiencies increased the risk that rates used by NIH would include inappropriate indirect costs and result in federal agencies paying more than their share of the organizations' indirect costs.

My statement today reflects our preliminary observations from our ongoing review that examines (1) what is known about indirect costs of NSF awards over time and (2) the extent to which NSF has implemented guidance for setting indirect cost rates for organizations over which it has cognizance. The information in this statement on NSF's indirect costs for its awards over time is based on our preliminary analysis of data from NSF award budgets that include the amount of direct and indirect costs on awards made from fiscal years 2000 through 2016. To assess the reliability of the data, we performed testing, including confirming that the data contained no outliers in the data fields we used, and we interviewed NSF officials. We found the data sufficiently reliable for the purposes of presenting indirect costs of NSF awards over time. We also interviewed NSF officials about award budgets and reimbursements, including budgets and reimbursements for indirect costs. To determine the extent to which NSF has implemented guidance for setting indirect cost rates for organizations over which it has cognizance, we reviewed OMB's Uniform Guidance, the Federal Acquisition Regulation, and *Standards for*

[8]GAO, *Biomedical Research: NIH Should Assess the Impact of Growth in Indirect Costs on Its Mission*, GAO-13-760 (Washington, D.C.: Sept. 24, 2013).

[9]GAO, *NIH Biomedical Research: Agencies Involved in the Indirect Cost Rate-Setting Process Need to Improve Control*, GAO-16-616 (Washington, D.C.: Sept. 7, 2016).

Internal Control in the Federal Government; reviewed NSF's guidance about the rate-setting process; and interviewed NSF officials.[10] To further examine how NSF has applied its guidance, we reviewed reports from the agency's database for tracking indirect cost rate proposals, and we selected a nongeneralizable sample of nine rate agreement case files from the total population of rate proposals received and closed in fiscal year 2016 and stratified the population by award funding (i.e., high, medium, and low). In particular, we selected three rate agreement case files from each of the populations to understand the extent to which NSF applied its guidance. Our findings are not generalizable to rate agreements we did not review, though they provide illustrative examples of rate agreement case files.

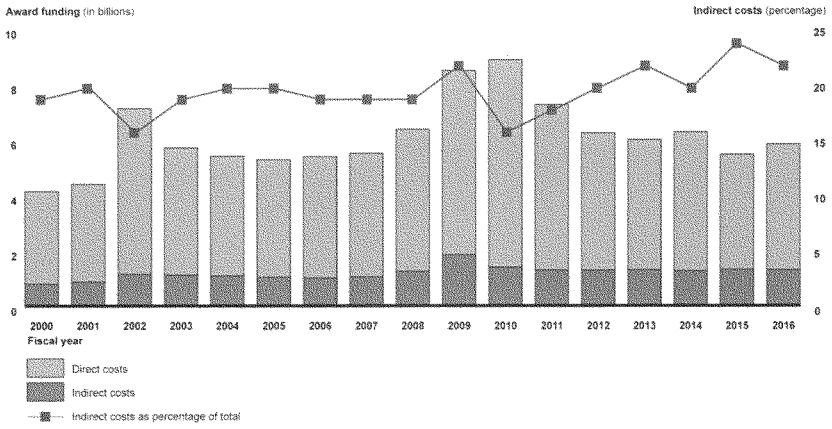
We are conducting the work upon which this statement is based in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives. We shared the information in this statement with NSF to obtain its views, and NSF provided technical comments.

Indirect Costs on NSF Awards Ranged From 16 Percent to 24 Percent of Total Annual Award Funding from 2000 through 2016 and Differed by Type of Organization

Our preliminary analysis of NSF data indicates that for fiscal years 2000 through 2016, indirect costs on NSF awards ranged from 16 percent to 24 percent of the total annual amounts the agency awarded, though the percentage generally has increased since 2010. In fiscal year 2016, for example, NSF awards included approximately $1.3 billion budgeted for indirect costs, or about 22 percent of the total $5.8 billion that NSF awarded. Figure 1 illustrates annual funding for indirect costs over the 17-year period.

[10]GAO, *Standards for Internal Control in the Federal Government*, GAO-14-704G (Washington, D.C.: September 2014).

Figure 1: Preliminary Analysis of Annual Direct and Indirect Costs Budgeted on National Science Foundation (NSF) Awards, Fiscal Years 2000-2016



Source: GAO analysis of NSF data. | GAO-17-576T

Note: Award funding has not been adjusted for inflation.

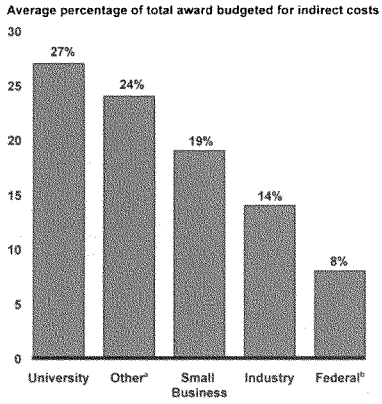
NSF officials told us that variation in indirect costs from year to year can be due to a variety of factors such as (1) differences in the types of organizations awarded, (2) the types of activities supported by the individual awards—research vs. individuals or students vs. infrastructure, (3) the type of research activity, and (4) the disciplinary field of awards. As part of our ongoing review, we plan to conduct further analysis of these factors.

The indirect costs on individual awards varied more widely than the year-to-year variations for each award. Most NSF awards included indirect costs in their budgets—for example, about 90 percent of the 12,013 awards that NSF made in fiscal year 2016 included indirect costs. Our preliminary analysis of those awards indicated that the proportion of funding for indirect costs ranged from less than 1 percent to 59 percent of the total award.[11]

Our preliminary analysis also indicates that average indirect costs budgeted on awards varied across types of awardees. NSF's data categorized awardees as federal; industry; small business; university; or other, a category that includes nonprofits and individual researchers. Figure 2 illustrates our preliminary analysis on the average percentage of total awards budgeted for indirect costs in fiscal year 2016, by type of awardee.

[11]NSF does not allow indirect costs on certain awards, such as awards that pay for the salaries of graduate students who participate in NSF-funded research. NSF awards made in fiscal year 2016 included 1,246 awards with no indirect costs (about 10 percent of total awards in fiscal year 2016).

Figure 2: Preliminary Analysis of Average Percentage of Total National Science Foundation (NSF) Awards Budgeted for Indirect Costs, by Awardee Type, Fiscal Year 2016



Source: GAO analysis of NSF data | GAO-17-576T

[a]Other includes nonprofit organizations and individual researchers.

[b]Federal includes some nonfederal entities such as the Federally Funded Research and Development Centers, which are public-private partnerships.

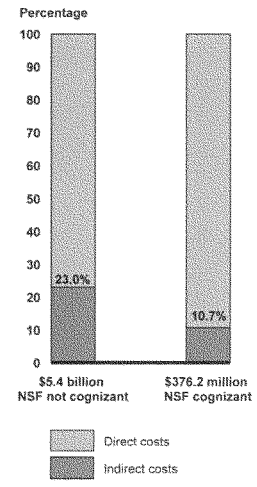
As shown in the figure, our preliminary analysis indicates that university awardees had the highest average indirect costs—about 27 percent of the total amount of awards—and federal awardees had the lowest average indirect costs—about 8 percent of the total amount of awards.[12] According to NSF officials, certain types of projects, such as those carried out at universities, typically involve more indirect costs than others. The officials said that this is because, for example, of universities' expense of maintaining scientific research facilities, which may be included as an indirect cost in awards.[13] Because universities receive the bulk of NSF's award funding and have relatively high indirect costs, our preliminary analysis of NSF data indicates that universities accounted for about 91 percent of the approximately $1.3 billion budgeted for indirect costs in fiscal year 2016. As previously noted, NSF does not set the indirect cost rate for the universities to which it makes awards, as those rates are set by HHS or DOD.

[12]NSF's federal category includes such entities as Federally Funded Research and Development Centers, which are sponsored by federal agencies for research and development tasks that are integral to their missions. The Department of Energy, DOD, and NSF sponsor the largest number of these entities by contracting with nonprofit, university-affiliated, or private industry operators.

[13]Because the Uniform Guidance allows flexibility in how organizations may categorize costs, the same type of cost, such as administrative support, may be categorized as direct by one organization and indirect by another.

Our analysis also showed that awards to organizations for which NSF had cognizance (e.g., nonprofits, professional societies, museums, and operators of large shared-use facilities) had lower average budgeted indirect costs than awards to organizations for which other federal agencies had cognizance. As shown in figure 3, our preliminary analysis of NSF data indicates that, on average, NSF budgeted about 23 percent of award amounts for indirect costs on awards to organizations for which NSF did not have indirect cost cognizance and about 11 percent for indirect costs on awards to organizations for which NSF had cognizance. Our preliminary observations show that in fiscal year 2016, NSF made most of its awards to organizations for which it did not have cognizance.

Figure 3: Preliminary Analysis of Average Percentage for Indirect Costs on Awards to Organizations for Which National Science Foundation (NSF) Does and Does Not Have Cognizance, Fiscal Year 2016



Source: GAO analysis of NSF data. | GAO-17-576T

Our preliminary observations show that among the approximately 110 organizations for which NSF has cognizance, negotiated indirect cost rates can vary because of the type of work being funded by awards and the ways in which different organizations account for their costs. For example, salaries for administrative or clerical staff may be included as either an indirect or direct cost, as long as they are consistently treated across an organization's awards. Our preliminary analysis of the rate agreement case files for nine organizations in a nongeneralizable sample of files we reviewed showed the rates ranged from 5.5 percent to 59.8

percent. An organization may choose to budget indirect costs for an award at a level close to its negotiated indirect cost rate for the organization, or it may choose to budget the costs differently. For example, one of the organizations in our sample had a negotiated indirect cost rate of 51 percent in fiscal year 2016.[14] In that year, the organization received one NSF award for $535,277 that budgeted $180,772 for indirect costs (or about 34 percent of the award)—a calculated indirect cost rate on the award of about 51 percent.[15] Another organization in our sample had a negotiated indirect cost rate of 5.5 percent in 2016, and one of its NSF awards in fiscal year 2016, for $1,541,633, did not budget for any indirect costs.

We based our preliminary analyses of indirect costs on data from the budgets of NSF awards—the only available NSF data on indirect costs. According to NSF officials, prospective awardees are required to provide direct and indirect costs in their proposed budgets using the organization's negotiated indirect cost rate. After an award is made, NSF does not require awardees to report information about indirect costs when requesting reimbursements for work done on their awards for projects. Specifically, NSF's Award Cash Management $ervice—NSF's online approach to award payments and post-award financial processes—does not collect data about indirect costs, although NSF is permitted to do so by OMB guidance.[16] According to NSF officials, doing so would unnecessarily increase the reporting burden on awardees.

NSF Guidance for Setting Indirect Cost Rates Has Not Been Consistently Implemented and Does Not Include Certain Details

Our preliminary review of NSF's guidance for setting indirect cost rates and a nongeneralizable sample of nine indirect cost rate files indicates that NSF has issued internal guidance that includes procedures for staff to conduct timely and uniform reviews of indirect cost rate proposals, collect data, set rates, and issue letters to formalize indirect cost rate agreements. However, we also found that NSF staff did not consistently apply the guidance. The guidance

[14]That is, for every $100 in modified total direct costs on an award (i.e., total direct costs minus exclusions, such as equipment and capital expenditures), the organization can seek reimbursement for an additional $51 for indirect costs.

[15]The calculated indirect cost rate for the award was the budgeted indirect costs divided by the budgeted direct costs; in this case, $180,772 divided by $354,455 for a calculated indirect cost rate on the award of 50.99 percent.

[16]NSF's Award Cash Management $ervice implements the OMB-approved form for awardees to report financial data on their federal awards. The OMB-approved data elements for indirect expenses that federal agencies may collect include (1) type of rate (i.e., provisional, predetermined, final, fixed), (2) indirect cost rate in effect during the reporting period, (3) the base against which the rate was applied, (4) total amount of indirect costs charged during the reporting period, and (5) the federal share of the total amount of indirect costs.

also includes tools and templates for staff to use to consistently set rates and procedures for updating the agency's tracking system for indirect cost rate proposals. However, in our preliminary analysis of NSF guidance, we found that (1) NSF staff did not consistently follow guidance for updating the tracking system, (2) the guidance did not include specific procedures for how supervisors are to document their review of staff workpapers, and (3) NSF had not updated the guidance to include procedures for implementing new provisions issued under the Uniform Guidance.[17]

In 2008, NSF created a database to track indirect cost rate proposals and developed guidance for updating the tracking database with proposal information. However, our preliminary analysis of reports from the tracking database indicates that NSF staff have not consistently followed the guidance for updating the tracking database with current data about the awardees for which NSF has cognizance and the status of indirect cost rate proposals. For example, in our preliminary analysis, we identified eight awardees for which NSF was no longer the cognizant agency but that still appeared in the tracking database on a list of agencies from which proposals were overdue. Cognizance for these awardees had been transferred to other agencies from 2009 through 2014. In addition, we identified 46 instances in which NSF staff had not followed the guidance to update the tracking database to reflect the current status of awardees' proposals, including instances in which the tracking database was missing either the received date or both the received and closed dates.

In addition, while NSF's guidance describes procedures that staff are to follow for setting indirect cost rates, it only includes broad procedures for supervisory review—NSF's primary quality control process for setting indirect cost rates. The guidance does not describe specific steps that supervisors need to take when reviewing the work performed by staff when setting indirect cost rates, nor does it include how supervisors should annotate the results of their reviews in the workpapers. In our preliminary review of a nongeneralizable sample of nine NSF rate files, we did not find any documentation that a supervisor had reviewed the work performed by staff, such as verifying that staff had checked the accuracy of the total amount of awards over which an awardee's indirect costs were distributed. Such reviews are meant to provide reasonable assurance that only allowable, allocable, and reasonable indirect costs have been proposed and that such costs have been appropriately allocated to federally funded awards.

[17]National Science Foundation, *Standing Operating Guidance 2013-3: Indirect Cost Rate Proposal Review* (Arlington, Va.: May 13, 2013).

Moreover, our preliminary observations on NSF's guidance indicates that it does not include procedures for implementing certain aspects of OMB's Uniform Guidance, which became effective for grants awarded on or after December 26, 2014. For example, a new provision under the Uniform Guidance allows research organizations that currently have a negotiated indirect cost rate to apply for a onetime extension of that rate for a period of up to 4 years; however, NSF guidance does not specify criteria for NSF staff to determine the circumstances under which an awardee could be given an extension.

In closing, I would note that we are continuing our ongoing work to examine NSF's data on indirect costs for its awards over time and its implementation of its guidance for setting indirect cost rates for organizations over which it has cognizance. NSF awards billions of dollars to organizations each year and, given the constrained budget environment, it is essential that NSF ensures efficient and effective use of federal science funding. We look forward to continuing our work to determine whether NSF actions may be warranted to promote this objective. We plan to issue a report in fall 2017.

Chairwoman Comstock, Chairman LaHood, Ranking Members Lipinski and Beyer, and Members of the Subcommittees, this completes my prepared statement. I would be pleased to respond to any questions that you may have at this time.

GAO Contact and Staff Acknowledgments

If you or your staff members have any questions concerning this testimony, please contact me at (202) 512-3841 or neumannj@gao.gov. Contact points for our Offices of Congressional Relations and Public Affairs may be found on the last page of this statement. Other individuals who made key contributions to this testimony include Joseph Cook, Assistant Director; Kim McGatlin, Assistant Director; Rathi Bose; Ellen Fried; Ruben Gzirian; Terrance Horner, Jr.; David Messman; Lillian Slodkowski; Kathryn Smith; and Sara Sullivan.

(101989)

Biography

John Neumann is a Director in GAO's Natural Resources and Environment Team, with over 25 years of experience leading performance audits of federal programs. He currently leads efforts in the science and technology area, including the management and oversight of federal research and development programs, protection of intellectual property, and federal efforts to support innovation. Mr. Neumann received his B.A. in Political Science cum laude from the State University of New York at Stony Brook, and holds an M.B.A from American University, as well as a J.D. from Georgetown University.

Chairwoman COMSTOCK. Thank you.
And I now recognize Mr. Luther for five minutes.

TESTIMONY OF MR. JAMES LUTHER, ASSOCIATE VICE PRESIDENT OF FINANCE & COMPLIANCE OFFICER, DUKE UNIVERSITY; CHAIRMAN OF THE BOARD, COUNCIL ON GOVERNMENTAL RELATIONS

Mr. LUTHER. Good morning, Subcommittee Chairwoman Comstock, Ranking Member Lipinski, Subcommittee Chairman LaHood, Ranking Member Beyer, and members of the Research and Technology and Oversight Committees. My name is Jim Luther. The perspective I represent today is both as a compliance officer and finance individual at Duke University as well as the Board Chair for the Council of Government Relations, which is a group of about 190 of the nation's major research universities, medical centers and research institutes.

I'll start by expressing my appreciation for this opportunity to discuss the federal university research partnership and how universities are reimbursed for the cost of conducting federally funded research. Academic institutions have been working in partnership with the federal government for decades to advance national security, health and prosperity. This partnership allows for significant cost efficiency in the use of federal funds where the government is unbound from maintaining its own facilities and personnel, and it has yielded tremendous results.

United States leads the world in scientific innovation, which has led to significant economic benefits, job growth, and advances in healthcare and defense that benefit all Americans.

The federal government contributes over 50 percent of funding for academic research. These funds include direct costs of personnel, supplies and equipment as well as facilities and administrative costs that represent critical infrastructure that supports the research. F&A costs cannot be viewed separately from direct costs. Together they represent the total cost of performing research.

If direct costs are thought of as the gas for the research engine, F&A reimbursements represent the oil. The research engine requires both.

My remaining comments are summarized in four points. Number one, there is a longstanding, time-tested commitment to the partnership. Number two, the effectiveness of the partnership is demonstrated by the cures that have impacted human health, improvements in defense, infrastructure, engineering, biology, social science, and other areas. Number three, the current system recognizes cost and infrastructure differences. Some research is more expensive than others because of geography but, more important, the type of research. And finally and most importantly, the current system recognizes that F&A is a real cost of doing research.

Research institutions provide the physical infrastructure where research is conducted. This includes construction and maintenance of specialized facilities and labs, which support diverse research such as the study of serious and potentially lethal agents, advanced robotics, and critical vaccines. F&A costs also provide key oper-

ations infrastructure such as utilities, high-speed data processing, human and animal research review boards, radiation and chemical safety, and other compliance activities required when accepting federal funds. It is as basic as turning on the lights and as complex as supporting the disposal of biohazardous materials like anthrax.

F&A costs are tightly regulated and audited by the government to ensure that the government only funds that portion of F&A costs that are attributable to the federally funded research. F&A costs on federal awards have remained relatively constant for the past two decades. At NIH, approximately 28 percent of all expenditures are attributable to F&A.

Universities are committed partners in our nation's research enterprise, committing more than 24 percent of their own funds towards higher education research and development—$17.7 billion in fiscal year 2015.

It is important to note that federal funding does not fully cover F&A costs apportioned to federal studies. That is due in part to a cap on administrative costs put in place for research universities in 1991 but also due to the significant increase in federal requirements that necessitate additional infrastructure and staff. A recent National Academies report noted that the federal government promulgated on average 5.8 new or changed regulations and policies per year over the past decade, a 400 percent increase over the 1990s. As nearly all universities are over the administrative cap of 26 percent, all new costs associated with complying with these regulations are borne by the university. That represents about $4.8 billion related to unreimbursed F&A costs.

With respect to research space, Duke's experience is that a moderate-sized research building increases our institutional cost by approximately $10 million per year, even after the recovery of F&A. This is due to faculty start-up costs, ongoing faculty and research support, subsidized animal operations, and components of the building which are not designated as research.

In closing, I would emphasize three points. The longstanding commitment to the partnership works, and it's been time-tested for many decades but is being jeopardized by declines in state funding, increasing regulations, and reduced F&A reimbursements. Number two, the current system recognizes costs and infrastructure differences that some research is more expensive, and for good reason. Different geographic regions and types of research can cause significant differences in costs. The costs related to support policy research is vastly different than F&A costs related to biocontainment, translational cell therapy, and so forth. And finally and most importantly, it recognizes that F&A cost is a real cost and doing research without it, plain and simple, we could not turn on the lights.

I would suggest that the effectiveness of this hearing would be reduced if we were sitting on the Capitol steps and didn't have lights, didn't have air conditioning, chairs, legislative aides, and AV equipment. That is analogous to the F&A support needed for university research.

Any reduction in federal funding including funding for research infrastructure will result in less research, slower scientific progress, fewer medical treatments, fewer jobs, and likely fewer

universities conducting research, and undergraduates and graduate students educated in the research setting.

Thank you.

[The prepared statement of Mr. Luther follows:]

Congress of the United States
House of Representatives

Committee on Science, Space, and Technology
Subcommittee on Research and Technology
The Honorable Barbara Comstock, Chairwoman
Subcommittee on Oversight
The Honorable Darin LaHood, Chairman

Written Testimony
Mr. James D. Luther
Associate Vice President of Finance
Duke University

Examining the Overhead Cost of Research

May 24, 2017

Good Morning Subcommittee Chairwoman Comstock, Ranking Member Lipinski, Subcommittee Chairman LaHood, Ranking Member Beyer and members of the Research and Technology and Oversight Subcommittees. My name is Jim Luther. I am the Associate Vice President for Finance and Research Costing Compliance Officer at Duke University. I also serve as the Board Chair for the Council on Governmental Relations, an association of 190 of the Nation's major research universities, medical centers and research institutes. I would like to start by expressing my appreciation for this opportunity to discuss the federal-university research partnership and how universities are reimbursed for the costs of conducting federally funded research.

Federal-University Partnership

Academic institutions have been working in partnership with the Federal Government for decades to advance national security, health and prosperity, beginning in 1945 when Vannevar Bush, then Director of the White House Office of Scientific Research and Development published his seminal work, *Science, the Endless Frontier: A Report to the President on a Program for Postwar Scientific Research*. Bush's report argued that universities, as the engines of discovery, were essential to advancing the national agenda; in the *Endless Frontier*, Bush stated: "It is only colleges, universities, and a few research institutions that devote most of their research efforts to expanding the frontiers of knowledge." This partnership -- which has allowed for significant cost efficiencies where the government is unbound from maintaining its own facilities and personnel -- has yielded tremendous results. The United States leads the world in scientific innovation, which has led to significant economic benefits and job growth, advances in human health and defense, and an improved quality of life for all Americans. This investment in university-based research serves the dual function of:

- Generating ground-breaking discoveries that are the foundation for technological and medical breakthroughs; and,
- Training the next generation of scientist, engineers, and entrepreneurs.

The value of this young and readily available "research labor force" cannot be underestimated. Universities recruit, educate and professionally prepare the next generation of researchers, solidifying the United States' position as a world leader in research for generations to come.

Federal Funding and Reimbursement of Research Costs

The Federal Government contributes over fifty percent of funding for academic research. These funds include the "direct costs" of personnel, supplies, and equipment, as well as the facilities and administrative (F&A) costs that represent critical research infrastructure. F&A costs cannot be viewed separately from direct costs; together they represent the total cost of performing research. If direct costs are thought of as "gas" for the research engine, F&A reimbursements represent "oil" – the research engine requires both.

Research institutions provide the physical infrastructure where research is conducted (i.e. facilities – the "F" in F&A). This includes construction and maintenance of specialized facilities and laboratories which support diverse research, such as the study of serious and potentially lethal agents, advanced robotics, and critical vaccines. F&A costs also provide key operations infrastructure such as utilities, high-speed data processing, libraries, depreciation, radiation and chemical safety, and other facility related activities.

The administrative (i.e. the "A" in F&A) component includes those costs related to administrative and compliance activities required to conduct federally sponsored research, including human and animal research review boards, financial reporting and purchasing, training and education, managing potential conflicts of interest, financial management, including accountability for research time charged to federal

awards, and the personnel and related costs to comply with other federal, state, and local requirements. It is as basic as turning on the lights and as complex as supporting the disposal of biohazardous materials like anthrax. With federally supported research, the institution takes on the responsibility and risk, and provides both the facilities and compliance support necessary for the investigator to conduct research.

How is F&A Determined and What are the Safeguards?

F&A costs are tightly regulated and audited by the government to ensure that the government funds only that portion of F&A costs, including the costs of research space, that are attributable to the performance of federally funded research. Federal regulations prescribe the methodology for developing the F&A proposal reviewed by federal agencies. These regulations define the "cost buckets" and allocation methodologies for every item on an institution's general ledger. Further, each negotiating team from Health and Human Services or the Office of Naval Research (the two cognizant government agencies responsible for determining university F&A rates) have detailed guidance documentation that drive a consistent oversite, review and negotiation process.

F&A rates are established for each institution in accordance with federal requirements mandated by the Office of Management and Budget. It is expected that rates will vary by region and institution. These variances occur for two major reasons:

1. Construction, renovation, utility costs and wages/cost of living vary significantly by region; and perhaps more importantly,
2. F&A rates vary depending upon the types of research that are conducted at an institution and the facilities necessary to conduct the research. Certain types of research are much more F&A intensive than others. For example, an institution that primarily does social science or observational research is likely to have a lower F&A rate than a biomedical research institution engaged in cutting-edge genomic research.

Institutions with higher than average F&A rates typically support facility intensive types of research that may include:

- Biocontainment laboratories that support immunology, virology, and microbiology research involving dangerous biological pathogens and select agents;
- Cord blood bank and stem cell transplant facilities;
- Animal facilities, which are also heavily subsidized by universities;
- Utility intensive technology buildings that require specialized HVAC systems, cold rooms, warm rooms, and air & water filtering systems;
- IT intensive imaging requirements that utilize petrabytes of information;
    - These costs are increasing logarithmically given that big data science is now becoming the norm for all labs.
- Translational Cell Therapy facilities that supports cell and tissue-based therapeutic products research which are built to FDA specifications; and,
- Resources to support genomic, proteomic, and metabolomics analysis and sequencing.

Some have suggested that universities build advanced laboratories unnecessarily, deriding them as "fancy"; this characterization is wrong. These are state of the art facilities necessary to conduct cutting edge research and do so in a safe and responsible manner. We as a nation cannot afford to conduct research with dangerous pathogens, for example, in facilities that do not meet necessary standards for safety. Where advanced facilities are not needed we often make do with dated research space and I would invite members of these subcommittees to tour the Duke campus to see both our advanced, cutting-edge

facilities as well as the substantial research space for which the university has deferred renovations. Further, with respect to proposals for flat rates, a flat rate could not adequately reimburse research-intensive universities that provide the necessary labs and facilities for the types of biomedical and facility intensive research described above.

Once F&A rates have been officially approved by the appropriate federal agency, it is incumbent on the university to accurately apply these costs. Duke University has dedicated offices charged with reviewing and applying F&A rates. Duke also requires specific training in the budgeting and expenditure processes, and regularly monitors F&A charges to ensure compliance. Costs charged to federal agencies are then audited annually by independent audit firms hired by the institution to comply with federal requirements and subject to additional federal agency and inspector general audits.

F&A Rates and Foundations

Comparisons have been drawn between F&A rates allowed on awards from non-federal sources, primarily foundations, and the federal government. Private foundations and charitable organizations, which contribute about 6% of all academic research funding, a relatively small contribution when compared with the role of the Federal Government and academic institutions, often do place limitations on F&A reimbursement. Research institutions accept these awards when such sponsors support mutual research and service aims for which funding opportunities are limited or that may be aimed at solving issues at the state and local level, for example, improving corn production or providing services to solve local problems. This support is provided in a very strategic and focused manner that develops synergies between a foundation and a university that has the infrastructure to support the research, and eventually the entrepreneur and business that will leverage the outcomes. Likewise, foundation funding can be used to augment federal funding. The Gates Foundation, for example, has enabled and provided funding for AIDS vaccine research at Duke when National Institute for Allergy and Infectious Diseases funding has waned; a synergistic partnership that WILL lead to an AIDS vaccine.

With respect to reimbursement, F&A rates charged to non-federal sponsors, such as foundations, are not expected to comply with federal accounting rules and therefore rates are often charged to the entire contract amount versus the lesser "modified" amount used for federal awards, which excludes certain costs. Foundations also often categorize and pay grant-related expenses very differently than the federal government does. For example, foundations often categorize some items as direct expenses that federal rules require to be counted as F&A expenses. And most universities would not accept an award that requires significant infrastructure unless foundations agreed to pay those costs directly.

It is worth noting that a number of federal programs, such as NIH career and training awards, also place limitations on F&A reimbursement (restricted to 8%) with the rationale that these programs are less F&A intensive than others, and the total dollar amount of these grants is far more than total foundation funding. Most federal awards, however, are F&A intensive and even full reimbursement at the negotiated rate does not cover the costs. Further, universities are typically not reimbursed at this rate. A November 2014 article in Nature on F&A costs found that "the data support administrators' assertions that their actual recovery of indirect costs often falls well below their negotiated rates." Overall, the average negotiated rate is 53%, and the average reimbursed rate is 28%. Research universities are never fully reimbursed for their F&A outlays; in sharp contrast to private industry that is not subject to the same limitations and can include a profit factor. In fact, colleges and universities are the only entities not fully reimbursed for the administrative costs of conducting federal research.

Universities Contributions to Federally Funded Academic Research

F&A costs on Federal awards have remained relatively constant for the past two decades. At NIH for example, approximately 28% of all expenditures are attributable to F&A costs. This stability has been maintained, despite ever-increasing federal regulations and reporting requirements.

Universities are committed partners in our Nation's research enterprise, committing more than 24% of their own funds towards higher education research & development activities–$16.7 billion in FY15 according to federal data. This commitment and partnership is being challenged, however, by a number of factors, among them declining state and federal funding and increasing regulations.

Federal funding doesn't fully cover F&A costs apportioned to federal studies. This is due, in part, to a cap on administrative costs put in place for research universities in 1991, but also to a significant increase in federal requirements that have and will necessitate additional infrastructure and staff. The National Academies report, *Optimizing the Nation's Investment in Academic Research*, noted that in the 1990s the federal government promulgated approximately 1.5 new or substantially changed federal research regulations and policies per year while in the last decade that number increased to 5.8 per year. Between January 2016 and 2017, at least nine new or substantially changed federal regulations and requirements were promulgated. The topic of increasing regulatory burden was the focus of my testimony to this Committee eight months ago along with the Government Accountability Office, the National Academies, and George Mason University. All stakeholders agreed with the key conclusions of the National Academies report, the National Science Board report *Reducing Investigators' Administrative Workload for Federally Funded Research* and the Federal Demonstration Partnership *Faculty Workload Surveys* and that;

- the regulation of research continues to steadily increase;
- there is a lack of standardization across agencies; and,
- federally funded research could be regulated much more efficiently.

Costly new requirements which are not yet implemented, such as data sharing, data protection, and data storage, and a new requirement to use a single institutional review board for multisite research stand to further increase total unreimbursed costs. As nearly all universities are over the administrative cap, all new costs associated with complying with these regulations are borne by the university. While F&A costs incurred by universities have increased, the rate of reimbursement for those costs generally has not. Of the $16.7 billion in university contributions to academic research in FY15, $4.8 billion was attributable to unreimbursed F&A costs and over $1.3 billion to cost sharing.

F&A costs are the real cost of doing research. Without these critical infrastructure costs, research universities and research institutions could not be viable partners in the nation's research enterprise. I conclude with a simple example from Duke. However, this could be true at Harvard, or the University of Illinois, or at George Mason University. With respect to research space, when the Duke School of Medicine contemplated a new mid-size building several years ago, the foundation of our analysis was the impact on the science conducted at our institution. As we proceeded to financial analysis we determined the new facility would increase Duke's institutional costs by approximately $10 million per year even after accounting for F&A recovery. This is due to faculty start-up costs (the cost of an average lab start-up over 3 years is approximately $1.5 to $2 million of institutional funding), on-going faculty research support staff, subsidized animal operations and components of the building which are not designated as research. In short, the decision to construct new buildings is entirely focused on the criticality of the science and the ability to meet ever-changing technology and laboratory needs and not the fact that the federal government may reimburse a portion of the building costs, as new construction will always represent a net loss to the institution.

Summary

The Nation's research institutions are active partners in research, providing the facilities, equipment and research personnel necessary to perform federally funded research. We fund one quarter of academic research, with the Federal government funding over half, in a partnership that has made the U.S. scientific enterprise the envy of the world and this country the global leader in science and innovation. Declines in state funding for public universities, increasing regulations and reporting requirements, and federal F&A reimbursements that do not fully cover costs jeopardize this partnership. Any reduction in federal funding, including funding for research infrastructure, will result in less research, slower scientific progress, fewer medical treatments, fewer jobs, and likely fewer universities conducting research and undergraduates and graduate students educated in a research setting. Stable and consistent funding of the entire spectrum of research infrastructure and activities is necessary to maintain our standing. We need to remain at the forefront of innovation and continue to fully support our nation's research enterprise.

Bio – James D. Luther
Duke University
(May 2017)



Jim Luther is the Associate VP Finance and Research Costing Compliance Officer. Jim's responsibilities include post-award areas and asset management oversight for the University and School of Medicine, negotiation of Duke's indirect cost and fringe benefit rates, and all aspects of Duke's research costing compliance program. He came to Duke in 1990 and has served in many capacities. Over the past several years he has instituted a compliance program that includes mandatory training for faculty and administrators, a comprehensive compliance certification program, and a compliance monitoring program.

He is active nationally and is currently the Chair of the Board of the Council on Governmental Relations (COGR) in Washington DC and the co-chair of the Finance Policy Workgroup with federal representatives for the Federal Demonstration Partnership (sponsored by the National Academies of Science). Before joining Duke, Luther served as a Captain in the U.S. Marine Corps. Luther earned his B.S. in Engineering from the United States Naval Academy and an M.A. from Duke University.

Chairwoman COMSTOCK. Thank you.
I recognize Dr. Vedder for five minutes.

TESTIMONY OF DR. RICHARD VEDDER,
DISTINGUISHED PROFESSOR OF ECONOMICS EMERITUS,
OHIO UNIVERSITY,
DEPARTMENT OF ECONOMICS;
DIRECTOR, CENTER FOR COLLEGE
AFFORDABILITY AND PRODUCTIVITY

Dr. VEDDER. Chairs Comstock and LaHood, Dr. Lipinski, Mr. Beyer, Members of the Committee, the policy of the federal government regarding overhead or indirect cost reimbursement to universities holding research grants is seriously flawed.

Two highly regarded economists from Stanford and Northwestern Universities concluded talking about overhead costs, and I quote them, "The existing system for reimbursing those costs creates unnecessary distortions in the operations of universities and has very high transactions cost. Instead, both universities and the federal government would be better off if the existing indirect cost reimbursement system were replaced by a system of fixed reimbursement rates that were not related to a university's actual indirect costs."

Suppose the NIH or NSF makes a million-dollar grant to a Harvard researcher. The immediate increase in indirect costs to Harvard for buildings, administration, electricity and the like as a consequence of that grant is probably at most a few thousand dollars. But however, Harvard will get several hundred thousand dollars in overhead funds, therefore, making a large short-term financial gain. At many schools including my own, researchers getting federal grants receive a kickback of some of the overhead money as an incentive to seek more grants. Schools would do not that unless they considered federal research grants to be at least somewhat financially lucrative.

Now, to be sure, in the long run there are real legitimate long-term indirect costs yet I think the current system incentivizes universities to pad their bureaucracies and have excessively fancy buildings. As one academic put it, "The more you spend, the more you get." Where's the incentive to have linoleum floors instead of marble?

A fairly considerable amount of resources is also devoted to justifying and verifying overhead costs. Non-governmental organizations making grants to universities typically allow far lower amounts of indirect costs. What are the policies regarding state government financial research? Again, today's GAO testimony suggests that the overhead provision is smaller. I calculate from figure 2 of the GAO report today that the average NSA university overhead provision in 2016 was about 37 percent of the amount granted for direct research costs, 27 percent of the total, 37 percent for research.

There are two good approaches to replacing the current system. The first would be to adopt a uniform national reimbursement rate. This was unsuccessfully proposed in the Obama Administration. This approach could save resources by ending negotiations and

verifications and audits surrounding unique individual rates on various campuses. If a university—if a uniform federal rate of, say, 20 percent were adopted, you would be able to maintain the amount of money going directly for research within a ten percent NSF funding reduction if that were to happen. I'm not advocating that, by the way, but I said you would be able to do so.

Although over time—and I would predict universities would still vigorously apply for grants although over time they would reduce their bureaucracies, hold fewer grant-writing workshops and like—more bang for the buck.

Under a second approach, the decision as to who would receive research grants would be partly determined by project price—a novel notion. Suppose NSF or NIH grants are made on a point system, 100 points being the maximum? Have 75 points be determined as now by the scientific merit of the proposal. Have the remaining 25 points be determined by the amount of overhead universities request. With the more points gained, the lower the overhead request. A school asking for 50 percent overhead for a grant might only get one point on the indirect cost portion of the grant application while one asking for only 20 percent might get 22 points. Greedy universities—a concept some don't believe exist but I've been at them for 52 years, and I know. Greedy universities with extraordinary indirect cost requests would likely get fewer grants while frugal universities willing to accept modest overhead provision would gain some advantage.

It is possible to get more actual research activity per dollar of total funding by paring our support for indirect cost provisions in funded grants.

Thank you, Madam Chairman.

[The prepared statement of Mr. Vedder follows:]

TESTIMONY OF RICHARD K. VEDDER
BEFORE THE SUBCOMMITTEE ON RESEARCH AND TECHNOLOGY AND THE SUBCOMMITTEE ON OVERSIGHT,
COMMITTEE ON SCIENCE, SPACE AND TECHNOLOGY
U.S. HOUSE OF REPRESENTATIVES
MAY 24, 2017

Chairs Comstock and LaHood, Dr. Lipinski, Mr. Beyer, and Members of the Committee:

I am the Director of the Center for College Affordability and Productivity, and Distinguished Professor Emeritus of Economics at Ohio University.

The policy of the federal government regarding overhead or indirect cost reimbursement to universities holding research grants is seriously flawed, and potentially reduces the amount of conducted scientific research while burdening American taxpayers. Not a lot has been written about this by academic scholars who are usually not hesitant about exposing public policy deficiencies, probably largely because many of them have an enormous conflict of interest, as they themselves are recipients of federal research funds. I have not had federal research money for at least 20 years and do not expect to ever do so again, thus I am free of those conflicts.

I should say, however, that I am not alone among academics in condemning current policy. Two highly regarded economists, from Stanford and Northwestern Universities, Roger Noll and William Rogerson, writing in 1998 concluded, talking about overhead costs: "the existing system for reimbursing those costs creates unnecessary distortions in the operations of universities and has very high transactions costs. Instead, both universities and the federal government would be better off if the existing indirect cost reimbursement system were replaced by a system of fixed reimbursement rates that were not related to a university's actual indirect costs."

The reimbursement system has not changed; each university has a negotiated overhead rate, with the most prestigious, wealthiest schools typically getting much more than lowly endowed state schools with lesser resources. For example, I have read that the reimbursement rate at Harvard is about 69 percent, but at my fairly typical mid-quality state university it is only about 50 percent. To be sure, actual reimbursement for overhead is typically a good deal less than the official institutional overhead rate because of various items excluded from the base used to determine overhead amounts. Somewhat surprisingly, university overhead rates are not routinely on websites of organizations like NIH and NSF, and access to that information in the past has been restricted to the general public on the grounds that it is proprietary, an absolutely outrageous practice that should be outlawed if the current system of variable indirect cost reimbursement rates continues, which I hope it does not.

Suppose the NIH or NSF makes a new $1 million grant to a Harvard researcher. The immediate increase in indirect costs to Harvard for buildings, administration, electricity and the

like as a consequence of that grant is probably at most a few thousand dollars; for example a bit more electricity and water may be used. However, Harvard will get several hundred thousand dollars in overhead funds. In the short run, the depreciation of building facilities tends to be ignored, and the administrative burden of having one more grant is small enough that no new staff must be added. Therefore, Harvard makes a large short-term financial gain, and thus it likely incentivizes its faculty to seek more grants. Getting a grant typically helps faculty members seeking promotion or larger salaries. It is revealing that at many schools, including my own, researchers getting federal grants directly receive a kick back of some of the overhead money for non-salary uses as an incentive to seek more grants. Schools likely would not do that unless they considered federal research grants to be at least somewhat financially lucrative.

To be sure, in the long run, the buildings and equipment where research takes place need to be replaced and there are administrators who have tasks to perform regarding sponsored research activities. In short, there are real, legitimate long run indirect costs. Yet the current system seems to incentivize universities to pad their bureaucracies, and to have excessively fancy buildings. As Boston area academic Wick Sloane put it in a *Boston Globe* story on this topic in 2013, "the more you spend, the more you get. Where's the incentive to have linoleum floors instead of marble?" My own discussions with grant-receiving researchers find in general they believe overhead amounts are excessive. Among other things, overhead money funds bureaucrats whose job it is to promote strategies for winning grants, money better used from a broader social perspective for actual research. A fairly considerable amount of resources is devoted to justifying and verifying overhead costs –a cost with no direct impact on the quality or quantity of academic research.

Anecdotal evidence suggests that non-governmental foundations and other charitable organizations making grants to universities typically allow far lower amounts for indirect costs. What is the typical overhead reimbursement amounts for, say, the Rockefeller, Ford, Gates, or Lumina foundations? For grants I have received from private donors, it is vastly lower than the 40 percent or so typical of federal research grants. What are the policies regarding state government funded research? Again, anecdotal evidence suggests the overhead provision is smaller. What little information I have gathered hints that overhead reimbursement is lower in neighboring Canada. Why? Perhaps you should ask the Government Accountability Office to look at the reimbursement rates used by non-governmental grantors and by also by governments such as Canada, the United Kingdom, and the American states.

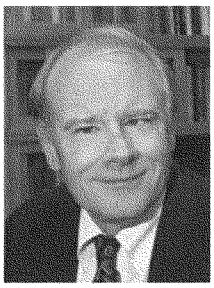
What should we do? The current system of negotiated rates is administratively expensive, supports excessive bureaucracies, and is arguably unfair, favoring wealthy schools over other institutions. There are two approaches to replacing the current system, either one of which would represent a great improvement, freeing up more research dollars for actual research rather than funding administrators, and promoting the use of serviceable linoleum floors over extravagant marble ones.

The first approach would be adopt a uniform national reimbursement rate. This was proposed in the Obama Administration but was shot down by relentless lobbying by top research universities. This approach could save a good deal of money by ending the negotiations and verifications surrounding the unique individual rates on various campuses. I would predict that if a uniform federal rate of say 30 percent were adopted, you would be able to increase the amount of money going directly for research, that universities would complain bitterly but still apply for grants nearly as vigorously as ever, that over time they would pare down a bit their bureaucracies, hold fewer grant writing workshops and the like, but that life would go on much as before, with a bit more research being performed. In short, there would be more bang for the buck.

There is an alternative approach that is in some ways even more appealing, although there are some disadvantages as well. Under this approach, the decision as to who would receive research grants would be partly determined by the price of it –a radical idea perhaps to researchers but not anywhere else in society. Suppose NSF or NIH grants are made on a point system, with 100 being a maximum. Have 75 points be determined, as now, by the scientific merit of the proposal using current procedures. Have the remaining 25 points be determined by the amount of overhead the university requests, with the more points gained the *lower* the overhead request. Universities demanding huge overhead amounts would risk losing grants on the basis of cost. A school asking for 60 percent overhead for a grant might get only 1 point on the indirect cost portion of the score for the grant application, while one asking only 30 percent might get 22 points. Greedy universities with extravagant indirect cost requests would likely get fewer grants, while frugal universities willing to accept modest overhead provision would gain some advantage. The notion that indirect costs should *not* have a bearing in determining the success of a proposal is inconsistent our scarcity of resources. The Law of Demand should apply here as it does virtually everywhere else in life.

We are in a slow growth economy with huge unfunded liabilities arising from our system of entitlements, especially Social Security and medical care expenses. Resources are scarce. Irresponsible past fiscal behavior imperils future generations, so we have a moral as well as a financial obligation to seek to minimize outlays for any given provision of public service. Consistent with that objective, it is possible to get more actual research activity per dollar of total funding by paring our support for indirect cost provisions in funded grants.

Thank you.



Dr. Richard Vedder

Dr. Richard Vedder is Distinguished Professor of Economics emeritus at Ohio University in Athens, Ohio. He has written extensively on labor issues, authoring such books as *The American Economy in Historical Perspective* and, with Lowell Gallaway, *Out of Work: Unemployment and Government in Twentieth-Century America*. Vedder is also an expert on the economics of higher education.

Vedder has written over 100 scholarly papers published in academic journals and books, and his work has also appeared in numerous newspapers and magazines including the *Wall Street Journal*, *Washington Post*, *Investor's Business Daily*, *Christian Science Monitor*, and *USA Today*.

Vedder has been an economist with the Joint Economic Committee of Congress, a fellow of the George W. Bush Institute, and an adjunct scholar at the American Enterprise. He directs the Center for College Affordability and Productivity and served on Secretary Margaret Spelling's "Commission on the Future of Higher Education."

Vedder received his PhD in economics from the University of Illinois.

Chairwoman COMSTOCK. And I now recognize myself for five minutes for questions.

Given the wide range that we have there, could you explain to us, like for example, Harvard University has—what, they're up in the 60s or so for their rate of—is that correct? And so—and Harvard University probably has one of the largest endorsements in the country. Would that be correct? You all agree? Okay.

So what I'm looking at some place like George Mason—and I understand a lot of the universities don't want to have caps here. What I'm trying to look at is how when we have a university with a huge endorsement, probably one of the largest in the country, has one of the highest rates, how can we, you know, provide for fairness, particularly for the new and up-and-coming universities? Do we want to have more diversity in terms of ability to get the research out there? I think, Dr. Vedder, you provided some different ideas on that.

And then also, and this is sort of for all of you to address maybe in a general idea, but when you look at—I'm thinking at George Mason, I know the Gates Foundation is funding some of the research that we have going on, I believe in Lyme disease. The state also funds it. I'm not sure what their rate is that they allow, and then we have some federal government money going in there. How does that work when the Gates Foundation does cap their administrative costs at ten percent. How does this all work out when you have those different rates, and how can we as the federal government maybe get a better bang for the buck and getting the money going directly to research among the different situations and different universities?

Mr. LUTHER. Could I respond to that question?

Chairwoman COMSTOCK. Yes, Mr. Luther.

Mr. LUTHER. Thank you. So I think there were three questions, one about the endowment, one about why do rates vary, and one about foundations. So the endowment piece, I'm not an expert on endowment, but there's certain restrictions about how you can use the funds for endowment.

But if I could address the other two because I think they're kind of at the heart of the issue as we look at this, and I would suggest that rates vary significantly as we all have discussed for two primary reasons. One, because of geography, what region they're in. If you have the exact same research building in San Francisco or New York City or in the middle of America, that exact same research, the cost of that, the cost of construction, utilities and everything else are going to be vastly different.

But the second point I think is more important there, and that is, it's all about the type of research. Within Duke, if we looked at individual grants, we have research being done on public policy, and the F&A related to that individual grant is a computer, the lights and so forth. If we look at a school of medicine, they have biocontainment facilities, they have specialized HVAC, they have warm rooms and cool rooms, they have purified water, they have the ability to filter the water for the experiments in a certain way. They have IT infrastructure. I mean, it truly is all about the research, the type of research being done, and I would suggest—again, within Duke, we might see one grant where the effective

rate is low, we might see another grant where it's really 100 percent or more. That averages out across the institution in this process.

And then with regard to foundations, I think there's a couple of things to look at. We have a fair amount of foundation money. A fair amount of that is from the Gates Foundation. But the way we cost is vastly different from a foundation to the federal government. First of all, foundations—and it's on the Gates Foundation website, for example—they will routinely pay certain things that the federal government will not pay. They pay it directly—project management costs, facilities costs, lots of different things that the federal government would not pay.

The second thing is that foundations generally apply their F&A rate to total direct costs. There was some discussion before about modified total direct costs. The federal government does not pay overhead to Duke University on capital equipment, patient care, sub awards, lots of different categories. Oftentimes a foundation does.

And then continuing, many of the foundation funding relates to off-campus work so comparing the Gates Foundation to Harvard at 60, it's more appropriate to compare to the off-campus rate, which is normally around 25, 26, 27 percent.

And then lastly, I would say, you know, foundations, at least our experience at Duke, are oftentimes incremental funding. We have again a fair amount of Gates Foundation funding that is providing funding related to development of an AIDS vaccine. NIAID is providing the bulk of that funding. The Gates Foundation is providing critical funding to support that.

Chairwoman COMSTOCK. Dr. Vedder, did you want to——

Dr. VEDDER. As Mr. Luther mentioned, there were several components to your question. One point you made with regards to endorsements, and it is—I think you're raising a fairly legitimate question, and also about the overall issue of sort of inequality in the funding.

I did do a little statistical regression equation looking at the published NSF overhead rates as of two or three years ago for about 100 different schools, and I compared that with other indicators of the eliteness of the school including their endorsement money per student, and it was interesting. The richer schools were getting the higher percentage rates.

Now, it is true, as Mr. Luther says, that there are special circumstances in some situations that might lead to some legitimacy in the differences of cost, but my university, a little school in Appalachia with a modest endowment, has an overhead rate of about 50 percent. In 2013, Harvard had 69 percent. And it is literally true if you walk into a building in Cambridge, Massachusetts, the floors are marble. I mean, they're nicer buildings. I mean, what the hell? I've been teaching at universities 52 years, and I've taught at all the universities mentioned here. I have two degrees from Illinois. I have one degree—I get a lot of money from George Mason, from the University of Colorado. I've been at all these schools, and believe it or not, there are differences in the appearances.

So I think it would be wise to ask the GAO to extend their studies further. What does Britain do? Take another country. What

does Canada do? Why are the—why would McGill University or the University of Toronto be much different than American University? What to the Canadians do? I don't know. It'd be interesting to know.

To me, a large part of the costs are this back-and-forth negotiations. Why not just set a flat rate and say be done with it?

Chairwoman COMSTOCK. And save the money on the audits.

Dr. VEDDER. Yeah, yeah, yeah. And by the way, I don't know want my remarks to be construed as saying I am against scientific funding. It's a question of how do we divide the pie between the researchers and between the administrative costs.

Chairwoman COMSTOCK. Thank you, and I've gone over my time, so I now recognize Mr. Lipinski for five minutes.

Mr. LIPINSKI. Thank you.

In my previous life, I was an assistant professor and I did get my Ph.D. from Duke. I have been to Ohio University though I have visited there.

But my background, and what I hear from my colleagues, what I hear in this Committee has—the reason why I was so active in working to reduce the regulatory burden and worked to get the Interagency Working Group on research and regulation established in the American Innovation and Competitiveness Act last year.

I want to ask Mr. Bell, what are some of the—what role do you see this interagency working group having in helping to reduce the regulatory burden?

Mr. BELL. What I'd like to do is talk a little bit about the Uniform Guidance, which is a policy document that oversees the indirect cost rate negotiation, and that was born of interagency working groups looking at administrative burden and trying to strike that fine balance between oversight and stewardship with, as we've talked about, freeing up funding to focus more on direct costs. So I believe that there is great opportunity. Administrative burden and interagency collaboration, I think, really need to be viewed within the context of where did the burden come from, where did the cost of compliance come from. So you could come up with a lot of great ideas, which is what I believe that the current reform efforts are associated around. The question is how do you then undo those from a government-wide level. So I believe that they will be great sources of information for administrative burden.

And then the real effort will be, how do you then unpack that? Is it coming from legislation, is it coming from individual regulation? The Uniform Guidance I believe did an admirable effort in trying to strike that balance between stewardship and between owning the partnership in the sense that our awardees are responsible to make sure that they're doing the best that they can with the funds that they receive.

Mr. LIPINSKI. Thank you.

I want to move on to ask Mr. Luther, Dr. Vedder claims that universities make a profit on indirect cost reimbursements from the federal government. It's my understanding that due to eroding support from state appropriations, public universities are contributing an increasing amount of their own institutional funds to cover the costs of conducting research. What is your response to the assertion

that universities are making a profit on indirect cost reimbursements?

Mr. LUTHER. That's a great question. At Duke, we contribute about $30 to $35 million of administrative costs. We're about six points over the cap. Now, one might argue that that's administrative bloat. I can assure you that's absolutely not. That is directly related to two things: adding administrative infrastructure to support the faculty. Right now there's multiple studies that suggest that faculty spend about 42 percent of their funded time doing administrative and compliance activities. Our job as administrators is to do the types of things that let them do the research and we do the administration.

The other thing we've been doing as we've discussed in September, eight months ago, from the perspective of new compliance requirements, new compliance requirements are coming out at the rate of about six or so a year, new regulations. When that happens, we spend money on technology, on business processes and people to manage it. But there is absolutely no incentive for us to hire additional administrators because we pay for every penny of it.

From the building perspective, we lose money. We don't get anywhere close to recovering the cost of a building regardless of the type of research, and in support of this testimony today, when we submitted our indirect cost proposal to Health and Human Services for negotiation, I looked in a handful of buildings, and the example I'm about to explain is representative. A 10-year-old building, the costs for depreciation and O&M operations and maintenance—is in the range of $9 million. We recover somewhere in the neighborhood of $2–1/2 million. We subsidize the research mission in that building $7 million.

So I do agree that some of our buildings have marble floors, but that's not what drives up the cost. What drives up the cost is that to support that research, you have to purchase a $2 million DNA sequencer in the lab to support that. A piece of that is in the indirect cost rate. You have to put in special HVAC and all the other things that we've talked about to manage that research. It is not—I would suggest it's not the marble when you walk in the lobby. It is everything else that goes to conducting that top-notch research.

Mr. LIPINSKI. Well, I have to say I didn't—none of political science buildings had marble floors, so that's all I know.

My time is up. I yield back.

Chairwoman COMSTOCK. I now recognize Mr. LaHood.

Chairman LAHOOD. Thank you, Chairwoman Comstock.

Mr. Bell, I was going to ask you a question here. I referenced earlier in my statement about National Science Foundation Office of Inspector General had released several, I guess, routine audits regarding several universities and research institutions and their use of indirect costs to cover travel expenses. As a result of one of those audit reports, the OIG is pursuing an ongoing investigation into the misuse of federal grant dollars for travel unrelated to the purpose of the grant, which was awarded to cover the development of a research institute. The OIG has questioned over $36,000 in travel expenses including over $12,000 covered by indirect costs.

Mr. Bell, because this case was egregious enough to warrant an ongoing investigation by the OIG, what measures does NSF take to track indirect costs and ensure that federal funds go toward direct research expenses and not other things?

Mr. BELL. Thank you for the question. So in terms of tracking costs both direct and indirect, there are a number of activities that NSF uses. One of them is one that you have pointed out, which is the oversight and analysis done by our Office of Inspector General. That is one way in which we ensure that the policies and procedures are in place—OIG audits.

Another mechanism that we use is something called single audit. Any organization that expends over $750,000 of federal funds is required to conduct an audit, and that audit looks at internal controls, looks at financial statements, and that information is then summarized in the audit and then uploaded to a federal audit clearinghouse, and the idea here is that we don't want just any one agency getting access to this information. Cognizant agencies for audits are responsible for taking those single audits and reviewing them and resolving those audits to ensure these organizations are meeting the expectations outlined in the Uniform Guidance.

The third thing that we do is, we have advanced monitoring programs, both where we do some transaction testing on site to ensure that internal controls are in place, and we do transaction testing at a baseline level where we randomly check various transactions, track them back to how those costs were reimbursed, how they were spent, both from a direct and an indirect basis.

Chairman. LAHOOD. And I guess following up on that, Mr. Bell, have you found that those mechanisms that are currently in place have had a deterrent effect on any other type of egregious allegations and that it has worked well or is in need of review?

Mr. BELL. So to begin with, we are in full compliance with the Uniform Guidance on oversight monitoring and indirect cost rate management, so that's our starting point. In terms of how we're doing, we believe that our advanced monitoring program and the other points with which we interact with awardees in fact does protect and serve the taxpayer. An example is we'll often during our advanced monitoring uncover things that don't seem right to us that could border on fraud. We forward those to the Office of Inspector General for investigation. We also work very closely with our Office of Inspector General during audit resolution. Resolution is the point at which the management takes that information and figures how best to move forward including things like the returning of funds or corrective action to support internal controls.

Chairman. LAHOOD. And you're confident with the system that's in place now?

Mr. BELL. I am. I am, and there is always room to get better. With over 2,000 awardees and 45,000 active awards, there's always an opportunity for us to improve, which is why we appreciate the oversight from this organization and from my colleague to the left at GAO.

Chairman. LAHOOD. Thank you. Those are all my questions.

Chairwoman COMSTOCK. I now recognize Mr. Beyer.

Mr. BEYER. Thank you, Chairman Comstock.

Mr. Bell, in Dr. Vedder's presentation, he made an argument for uniform national reimbursement rate, and among other things, he said that the current system of negotiated rates favors the wealthier schools over other institutions, you know, HBCU schools or smaller state schools and the like. How do you respond to that, and why is that insight not correct?

Mr. BELL. So my first response is that we are the cognizant agency for about five percent of the organizations that receive NSF funding, and 91 percent of those organizations are colleges and universities, for which the cognizant agency for them is HHS and ONR.

Mr. BEYER. Let me jump beyond that. I realize that you aren't determining the rates because you're not the cognizant agency but you still have to administer those 22,000 grants, the $7 billion. So whoever makes the rate, they're negotiated now across all 100 percent.

Mr. BELL. That's correct.

Mr. BEYER. Does the negotiated rate actually help the Harvards and the Princetons and disadvantage the Virginia States and the Norfolk States?

Mr. BELL. I wouldn't be able to give you specific information but perhaps I'll give you a general statement. A cap means that some organizations would have to—would under-recover indirect costs, and as we've described, indirect costs are real costs in support of executing research. So a cap could mean that organizations would not be able to recover. Some organizations are in a better position to absorb under-recovery. Those would be organizations who have access to other types of funds, which could include endowments, could include raising tuition, or other sources of funding. So organizations that are unable to absorb that under-recovery would not be able from an economic standpoint to actually participate in the research enterprise.

Mr. BEYER. Okay. Thank you.

Mr. Neumann, again, referring to Dr. Vedder's comments, number one, he pointed out that the research grants are so good for colleges and universities that they actually give kickbacks to the professors who get them and that they're incentivized to get more. He also suggested later that in arguing for uniform national reimbursement rate that if 30 percent were adopted, universities would complain bitterly but still apply for grants as vigorously as ever.

From a Duke perspective, is that how you guys feel about the grants, kickbacks, and would you compete as vigorously as ever with a 30 percent cap?

Mr. LUTHER. So two questions. With regard to the kickback, we do return some of the recovery back to the department and to the school but we do that because that's where the cost is, so 20 years ago we didn't do that. We kept much of the indirect centrally and we paid rent centrally, we paid facilities centrally, and there was no incentive for the schools to manage their space effectively. When the revenue follows the cost, the incentive is completely different. So if they have vacant space, that space that they don't pay for, they don't get any indirects related to that, and it's managed centrally so that it can be used more effectively.

So the kickbacks, I would say the first point on that is, the indirect costs are reimbursement for costs that we already incurred. The fact that the revenue comes in and we do something else with it I would suggest is completely irrelevant. But secondly, as I just stated, the reason we return that back to the faculty member, back to the department is to incent responsible behavior and because, as I mentioned, Duke contributes somewhere in the neighborhood of $125 million a year to the research mission sending that back to the department so that they can buy computers, which are difficult to purchase on grants, so that they can fund post-docs and graduate students, which aren't always funded on grants. That's why we do that type of thing. And I'm sorry, I forgot the second question.

Mr. BEYER. If there were a 30 percent cap, would you pursue the grants as vigorously as before?

Mr. LUTHER. What troubles me about that is, I don't know what the long-term impact on that is, but you wouldn't have the breadth of the research institutions you do now. We fund that $125 million a year of the research mission that the federal government doesn't fund with philanthropy and with clinical margins and other things. I don't know how other institutions would do that with pressures on tuition, with smaller endowments and so forth. Right now the way the research works now is the research is solely focused on the institution that submits the best proposal from a scientific standpoint, from a peer-review standpoint gets the award, and sometimes we absorb more indirect costs than others but that's how the system works. It's not about funding. It's not about the indirect costs.

Mr. BEYER. Thank you. Mr. Chair, I yield back.

Chairman. LAHOOD. [Presiding] Thank you. I now yield five minutes to Mr. Palmer.

Mr. PALMER. Thank you, Mr. Chairman.

Mr. Neumann, why do university awardees receive the highest averaged budgeted indirect costs? I think it's 27 percent in 2016 compared to other awardees?

Mr. NEUMANN. Well, we're still evaluating the reasons for that but NSF has told us, you know, some of the things that they believe goes into that, and a lot of it is just the nature of the research being done, the facilities that are needed for that research, and I think the important thing is, we're looking at the data at a high level, and to really understand what that data means, you need to go down to almost an award-by-award level so you're comparing apples to apples, you know, university to university to see what you're paying for the same type of research, and so I think that's the level of analysis you would need to understand some of the reasons for the universities being higher.

Mr. PALMER. We're talking about an average so that means it's pretty uniform, routine that it is higher. I think it raises some concerns about the budgeted indirect costs.

Let me ask you this. For an organization to be reimbursed for indirect costs, it must have a negotiated indirect cost rate agreement with the federal agency. How can this process be improved at NSF?

Mr. NEUMANN. Sure. I think what we're seeing is that there should—we'd like to see consistency in applying the guidance for the rate-setting process, make sure that there is supervisory review, and that the guidance is clear. I think that's going to be really important to ensuring that you have, you know, effective processes for managing indirect cost rates, having, you know, the data being helpful in identifying where the indirect costs might be growing if they are having that guidance and ensuring that staff are implementing it correctly.

Mr. PALMER. Your agency, the GAO, released two reports on NIH and indirect costs. Were you findings for NSF similar to those previous findings or were there any significant differences?

Mr. NEUMANN. On the rate-setting process, we had similar findings in the NIH report where we saw some—there could be some improvements in the internal control for the rate-setting process including supervisory review and having clear guidance, particularly for changes that came out of the Uniform Guidance in 2014.

Mr. PALMER. Well, GAO cited some deficiencies in oversight of grants, indirect cost claims by agency watchdogs. Are we seeing adequate amount of scrutiny on these grants, on the indirect cost claims?

Mr. NEUMANN. Well, the NSF IG has continued to monitor that and has done a number of audits over the years and continues to do that, and we understand NSF has some things in place that they do to monitor the expenditures, but we did note in our statement that NSF doesn't have complete data on expenditures of indirect costs. It's more done at the planned award budget level. So NIH, for example, does have that data on indirect cost expenditures that may be useful if you were trying to monitor any improper use of indirect costs.

Mr. PALMER. Well, Mr. Dodero and I have had several conversations about the problem of improper payments and how do we stop that. Let me ask you this. What are the penalties for organizations that have found to have charged inappropriate indirect costs? Are they penalties sufficient to ward off bad actors? And by the way, just for the rest of the Committee's information, the improper payments last year were $133.7 billion. That's money we had to borrow since we're in a deficit, so I'd like to know if there's anything that we can do at any level of the federal government, and particularly right here, since that's the topic of this hearing, to ward that off?

Mr. NEUMANN. I think there's some similar themes in terms of this case as well, and that would be just having the data, analyzing that data to know where there might be anomalies and then being consistent in implementing the guidance for the indirect cost rate process and having the ability to review that information when expenditures come in.

Mr. PALMER. I appreciate your answers. I thank the witnesses for being here today. Mr. Chairman, I yield back.

Chairman. LAHOOD. Thank you. I yield five minutes to Mr. McNerney.

Mr. MCNERNEY. Well, I thank the Chairman and I thank the Committee for having this hearing. My daughter's a research scientist, and this is an area that's very dear to her.

Mr. Neumann, Chairman Smith in his opening statement claimed that indirect costs are increasing over time. Do you agree with that assessment?

Mr. NEUMANN. We noted variation in the indirect costs over the 17-year period we looked at from 16 to 24 percent, and there was increase from 2010 to 2016 if you look at just those years. What we haven't looked at yet is what is the reason for that, what's behind that data. Are we looking at increases in the amounts of cost for the same types of awards or is it just the mix of research that goes into each year that's different from year to year and so there would be different types of indirect costs included in there.

Mr. MCNERNEY. Thank you.

Mr. Luther, you indicated that federal funding does not cover the indirect costs at the universities. What is your understanding of why universities are unable to recover their costs?

Mr. LUTHER. Could I address the previous question just for one moment?

Mr. MCNERNEY. Sure. Absolutely.

Mr. LUTHER. What we've seen and I think it's actually federal data is that at least as far as NIH, one funder, that the rate of 27, 28 percent has been consistent for decades. So the funding has gone up, F&A has gone up, regulations have gone up, but as a percentage of the direct funding, it's been relatively stable.

Mr. MCNERNEY. Okay. Thank you.

Mr. LUTHER. With regard to why we can't recover, I think there's a number of things. One is the administrative cap that was put into place in 1991 caps all administrative costs at 26 percent. That number has not been indexed up. It's been 26 percent for 27 years. And as I've mentioned, the regulatory requirements have changed significantly, and so the compliance requirements have changed significantly. And again, we absorb every incremental dollar of administrative or compliance activities from the A part of the F&A.

With regard to the facilities, again, I would suggest that the cost of research is increasing significantly based on the type of research we're doing. So again, as the federal budget tightens sometimes, Duke University, many universities, public, private, big and small make decisions to purchase equipment to do things different—to build buildings, to renovate existing space to meet the new type of research that's coming down the pike. It's expensive, and we don't recover all those costs. That's known going in, but from the standpoint of what does it mean to have a state-of-the-art building that supports, whether it's a Nobel prize winner or a researcher, there's undergraduate students, graduate students that interact through those labs, the ecosystem, the value of that across the entire ecosystem is significant, and so we know going into those decisions that we build buildings for that broader base.

Mr. MCNERNEY. Well, Mr. Vedder described a vicious cycle in which indirect costs go to justifying indirect costs. Could you respond to that?

Mr. LUTHER. Well, so I would suggest the competitive cycle's really critical. The hit rate on grants has dropped significantly so there are a lot of proposals that are being submitted. But as far as institutions that there's incentive to spend administrative dollars or F dollars, the facility costs, we pay every incremental dollar

for administration, and again, for every research dollar that comes in the door, we pay 30 to 40 cents on the dollar. So we're not making money on the research endeavor whatsoever.

Mr. MCNERNEY. The National Laboratories don't seem to be represented here this morning. Can anyone speak to the—or can anyone quantify any difference in overhead at the national labs as opposed to the universities? I guess that you would be you, Mr. Neumann. You're shuffling through papers.

Mr. NEUMANN. So we did have a category in figure 2 of our statement for federal and that included the National Laboratories. It was eight percent. But again, we're still evaluating, you know, what the differences mean. This is just high-level data that lays out what the actual percentages were for the one fiscal year, so we'd want to do a little more evaluation to understand what's behind that number.

Mr. MCNERNEY. So you wouldn't have an explanation for that difference?

Mr. NEUMANN. No, but we can get back to you with a response for the record.

Mr. MCNERNEY. I would appreciate that.

Mr. Luther, what—well, I'm out of time so I'll just yield back.

Chairwoman COMSTOCK. I now recognize Mr. Hultgren for five minutes.

Mr. HULTGREN. Thank you, Chairwoman Comstock. Thank you all for being here. This is an important conversation for us to continue to have and I'm really grateful. It's so important for us as we go back talking with our constituents to make sure that we are getting the best bang for taxpayer dollars in research and committed to making sure that the resources continue to be there.

I've been a staunch advocate in our role as federal government in basic scientific research funding and the research that really can't be done by the private sector, the stuff that we have to be doing, and recognizing often unintended results decades after initial results that again the private sector just can't put a plan together to do that, but that's the kind of work we see every day in our great research and in our labs.

I'm also looking for ways in which we can do this in the most efficient manner as I know all of us are. The compliance costs and regulatory burdens for universities I believe is too high, and with the passage of the American Innovation and Competitiveness Act, I hope these processes we'll put in place will be able to tackle that problem.

At the end of the day, I'd rather have more taxpayer money going to research than new lawyers or compliance officers. Many of us would share that.

This hearing has been focused on facilities and administrative costs, or F&A, where we could have greater transparency and potential savings. I've heard from a number of my universities that they actually spend more on F&A than are reimbursed by the government, most showing a reimbursement rate of about 75 percent.

I am wondering, and I'd kind of throw this out to all of you, regulatory compliance contributes to the cost of F&A. What actions could the federal government take to reduce this regulatory burden and help ensure that researchers' time is spent productively? I'll

throw it out to any of you if you have a thought or two. Mr. Neumann?

Mr. NEUMANN. Yes. Last year, we issued a report regarding the federal research requirements for universities in particular, and we identified a number of opportunities for streamlining some of the requirements. Even though we have the Uniform Guidance that OMB put out, agencies still have some flexibility in implementing those guidance, and—that guidance, and we found agencies did do so differently and so that created some additional workload for the universities that we met with.

Mr. HULTGREN. Mr. Luther?

Mr. LUTHER. The only thing that I would add to that is, you know, as we collectively look at this, whether it's COGR or AAU or the Federal Demonstration Partnership, which is a combination of universities and federal representatives that work together on these things, you know, I think our greatest concern is that much of this burden falls on the individual faculty members, so they're the individuals that should be in the lab getting the work done and instead they're doing compliance and administrative responsibilities. So we take that very seriously.

The other part is just the sheer cost of that, and I think over the past six months and certainly longer than that, there is a growing list of recommendations. Again, from my COGR role, we have a number of lists that we would suggest opportunities for reducing burden, and this isn't suggesting that the regulations all in all are bad around human subject management but it's suggesting that there's betters ways to do it with less burden. And so I think there's lots of opportunity to address those types of things, and again, I think in the GAO report and the National Academies report from a year or so ago, there were great recommendations along those lines.

Mr. HULTGREN. Mr. Luther, maybe you can drive in a little bit deeper on that. In your testimony, you talked about the regulatory burdens for carrying out federal research. As we cut to those regulatory burdens on academic research, isn't there an opportunity to also bring down administrative costs as well?

Mr. LUTHER. Yes, I think there is, absolutely. You know, but again, to state that, reducing the regulatory burden is a great idea. That's not necessarily going to have any impact on the F&A costs because, again, we're many points over the administrative cap, right? So reducing that burden reduces the ability to direct those funds towards programmatic missions, academic, research and other missions so absolutely, that's what we should be focusing on.

Mr. HULTGREN. Mr. Neumann, with the seconds I have left, for an organization to be reimbursed for indirect costs, it must have negotiated an indirect cost rate agreement with its cognizant federal agency. How can this process be improved by NSF?

Mr. NEUMANN. As I noted previously in my statement, we are seeing some opportunities for the NSF guidance to be implemented consistently as well as opportunity to provide more details to the NSF staff so they can be consistently implementing the guidance particular when it comes to supervisory review and then applying the uniform guidance changes that came up in 2014.

Mr. HULTGREN. Thank you. My time is expired so I yield back the balance of my time. Thank you, Chairwoman.

Chairwoman COMSTOCK. I now recognize Dr. Marshall.

Mr. MARSHALL. Thank you, Chairwoman.

My first question, I think Mr. Bell or Mr. Neumann can answer it. Let's suppose the top biosecurity research center in the country, Kansas State University, has ten different studies they're doing. When you negotiate an indirect expense rate with them, cost, do you do it per study or does the university just get one negotiated for the year?

Mr. BELL. So because it's a college or university, it is negotiated either by HHS or ONR. It is done at an organizational level, not an award-by-award level.

Mr. MARSHALL. And at the end of each year you go through the finances and you reconcile that, so to speak?

Mr. BELL. It depends on the type of rate that is negotiated. I believe HHS and ONR typically use four-year predetermined rates, that is, they look at the stability of the organization and whether or not the ratio fluctuates over time and then they establish a predetermined rate. Now, that predetermined rate means that you only negotiate it once so you're reducing administrative cost. However, you can potentially under-recover with no recourse or you could potentially over-recover. And you're exactly right that the basis of these negotiations are audited financial statements or other financial information.

The other thing is that cognizant agencies have the flexibility for creating a rate structure to most equitably distribute costs. So one study may have a different indirect cost rate if it in fact is using a totally separate set of infrastructure, and this is why I think this topic is "sexy" because there is a lot of complexity. It's an easy concept: how do we share these indirect costs appropriately? The hard part is, well, what's the best way to do it, and currently, Uniform Guidance really provides the way that at least we're doing it all the same way across the government.

Mr. MARSHALL. Okay. Mr. Luther, this one's for you. As I understand it, foundations and philanthropic organizations account differently for research expenditures, allowing some costs to be included as direct research expenditures at the federal government does not allow. Can you talk a little bit about apples and oranges in the way we're comparing foundations will pay for F&A costs versus the other entities?

Mr. LUTHER. Certainly. So you're exactly right. The foundations will often pay for the things the federal government won't, number one, and number two, when they apply that rate, it generally applies to all costs. There's no modified total direct cost. And so the recovery mechanisms and the costing mechanisms are truly different. And as I mentioned briefly, many times foundations fund research that's considered off campus so truly the rate that is compared to many foundations should be to like a Duke University's off-campus rate, which is 26 percent, as opposed to our full rate because of the type of research that's being conducted.

Mr. MARSHALL. Okay. I'm going to stick with you, Mr. Luther. My universities obviously are very concerned about this and are helping to educate me. Is it also your understanding that the cur-

rent OMB rules strictly prohibit federal reimbursements that will subsidize research sponsored by foundations when they don't pay for full cost for research including the required F&A costs?

Mr. LUTHER. That's correct. So we just submitted our indirect cost proposal to Health and Human Services three months ago, and in that proposal, the way we developed the cost allocation, the sexy aspect of the cost allocation is to make sure that the federal government does not subsidize one penny of foundations, industry or anything else. It's just the structure defined by the Uniform Guidance doesn't allow that to happen.

Mr. MARSHALL. My last question. Why is there a difference in the rate non-federal research sponsors pay for these facilities' administrative costs?

Mr. LUTHER. So again, many of these foundations have a different mission and a different relationship to universities. As we talked about in the very beginning, this partnership was about the federal government going back 50 years sharing in the development of the infrastructure. The Gates Foundation is paying for incredibly important research at Duke University, and it's partnering with Duke and NIAID around creating an AIDS vaccine, but it's funding some of the incremental and critical costs that allow that research to continue, especially when there's been federal funding gaps.

Mr. MARSHALL. I'm going to squeeze in one question. I think it's back to Mr. Neumann and Mr. Bell.

Mr. Luther says there's geographical differences. Why would that matter? If electricity is cheaper at Fort Hayes State University or Kansas University than it is at North Carolina, why can't we use that to our advantage in saying that we can actually do more with less as long as our outcomes are good?

Mr. BELL. So really, the issue there is that whether or not an idea, or the location of an idea, or whether a researcher comes up with an idea; it's the value of the idea and the potentially transformative nature of that idea, and that should not be a component of evaluating whether or not we should fund it. So if you have a full portfolio that you're reviewing based on the merit review criteria—that's intellectual merit and broader impact—those are the drivers on whether or not you try to fund something, not whether or not their indirect cost rate is high or low.

Chairwoman COMSTOCK. And actually I'd like to follow up.

Dr. Vedder, you had talked about maybe taking in competitive factors and other things into account. So can you expound upon that a little bit on evaluating research proposals how if there weren't going to be a cap because that could have other issues with it, what kind of factors and how would they be utilized? And I'm thinking in the context of having a more diverse research pool but also sort of getting more bang for our buck and then maybe providing an incentive for some of the others that have high overhead cost to maybe finding their way to balancing it if that were a competitive factor?

Dr. VEDDER. Yeah. As I understand research grants now, when a group of scientists evaluates an NSF proposal, they view it strictly on its scientific merit—is this the best proposal—and they rank a series of proposals from best to worst, and they're putting pri-

mary emphasis on the quality of the research. But in the real world, we have resource constraints and dollars matter. You ought to know that here in Congress with all the budget talks and so forth.

So what is wrong with the idea that after we've done the consideration of scientific merit on a proposal and that we make that the prime determinate of whether the award will be made that we couldn't give some secondary weight to how little money the university asks for the non-purely scientific dimensions of their research? Why shouldn't a university be able to bid as we bid in everything else in life, and if we are willing to do the work at a low cost in terms of the administrative side of things, why shouldn't that be given some favorable consideration in the evaluation of the grant? That was one of my research ideas.

The other thing I pointed out, Chairman Comstock, was we spend an awful lot of time talking to researchers and auditing, investigating, checking, did you do this, did you do this, is this over the cap, is this under the cap. There's a lot of people, and I talk to researchers all the time and says there's too much of that, why don't you just put a—this is another approach. It's a different idea. And it's been introduced before. The Obama—it's a nonpartisan thing the Obama people—it was pushed in the Obama Administration. Why don't we just put a flat rate? We can argue whether the rate ought to be 20 percent or 30 percent or what. Everyone will get that. The basic research grant will be approved, whatever, and then we'll add that on, and we won't spend as much time and resources as we do going through all this other stuff.

So those are two alternatives approaches that I think at least ought to get some discussion. I'm not talking about the amount of money on scientific research here. I'm talking about the allocation of that money between alternative uses, and that's an altogether different issue, and so that's—I don't know if—that probably didn't answer your question.

Chairwoman COMSTOCK. No, that was——

Dr. VEDDER. But I'm a college professor with tenure and I answer any question I want.

Chairwoman COMSTOCK. Thank you. I appreciate it. Did anyone else have a comment on that? Mr. Bell?

Mr. BELL. So Dr. Vedder does point out that merit review is a primary component of the NSF approach. We have panelists of experts that evaluate against the two criteria, intellect merit and broader impact. Our program officers then use merit review as a component of trying to decide what is the correct, or the best portfolio, so that may mean that it's not just merit review, it could be that there are two ideas that are both equally good but you may just need to fund one of them. So it's not whatever scored highest gets funded. There are experts, program officers who are responsible for managing that portfolio.

Chairwoman COMSTOCK. So you're suggesting that some of that's already being incorporated? So it would be like if a college got two exceptional students that are equal otherwise, they might look and say but this person has had a tougher time or, you know——

Mr. BELL. That's exactly right.

Chairwoman COMSTOCK. —or fewer opportunities and so already factor some of that in now?

Mr. BELL. Right. We have program officers bring their expert judgment to the table. It's not rack and stack, draw a line, you're done. It's do we have enough geographic diversity, do we have enough new awardees and established awardees. So there are other factors that play into the merit review process.

Chairwoman COMSTOCK. Thank you. And Mr. Lipinski, I'll recognize him for second round.

Mr. LIPINSKI. Yes. Thank you, Chairwoman.

I want to follow up. I understand—I appreciate the fact that Dr. Vedder has tenure and can say whatever he wants to say. I want to follow up on the proposal that Dr. Vedder had for scoring research proposals in part based on what they would cost. I understand sort of on the face of it it makes some sense. Now, NSF never did exactly that but in the past they did favor research proposals that came with higher cost-sharing commitments. In 2004, NSF ended voluntary cost-sharing except for unique programs such as the Industry-University Cooperative Research Centers.

Program officers are always under pressure to stretch their budgets as far as possible, and when cost-sharing was used as leverage in negotiations, scientific merit and impact was too often downgraded as a factor in award decisions. That was the concern that NSF had and why they ended that. So I want to ask Mr. Luther what your thoughts are on the effect Dr. Vedder's proposal to score research proposals based on cost would have on research and researchers ta university?

Mr. LUTHER. Thank you. A couple thoughts. My first thought is, I mean, I completely get the idea of factoring in cost. My concern is that would significantly reduce diversity. It's going to be universities that can cost-share the most that are going to win those awards, and that's—as a large private, that certainly benefits a university like Duke. I don't know that it benefits the broad research mission. And that would be my greatest concern, number one.

Number two, you know, we often make decisions on cost, and I was talking to a faculty member several days ago about a grant that was trying to maximize how many genomic array tests it could do, and the individual had X amount of money. We went out to the lowest bidder, and when it was all said and done, the quality that came back wasn't sufficient, and we had to rerun all of those tests internally at Duke's expense to make sure that the data was valuable.

That's my only concern about factoring in the cost too much is that would reduce diversity across institutions, and sometimes—and as economist you would probably agree, sometimes you get what you pay for, and my concern is that diversity and the best science should always be number one.

Mr. LIPINSKI. The concern that I have is that you start a race to the bottom in some ways and that some universities will just start cutting that because they're looking—they don't have enough of a view of the long run and the long term. We certainly see, especially—I'd asked earlier about public universities. I know public universities are under a lot of pressure right now. Certainly the

University of Illinois is. And I would sort of hate to see it be a situation where we need the money in the door right now so let's say our indirect costs are going to be lower, and in the long run then you're really—again, you're giving up. Your facilities are just going to suffer. Everything for the long term, in the long run is going to suffer for the immediate impact of maybe getting more research dollars in the door today. So that's also a concern that I have.

I thank everyone very much for their testimony on this. It's certainly an important issue. We all want to stretch research dollars as much as we can, and I think we should continue this discussion, and as Chairwoman Comstock said, we've worked on reducing regulatory burden. I think on this Committee we have that role of helping with that, and I want to continue to make sure that we do that.

So I yield back.

Chairwoman COMSTOCK. Thank you, and I thank the witnesses for their testimony and their insight today and the members for their questions. The record will remain open for two weeks for additional written comments and written questions from Members.

And the hearing is now adjourned. Thank you.

[Whereupon, at 11:45 a.m., the Subcommittees were adjourned.]

Appendix I

Answers to Post-Hearing Questions

ANSWERS TO POST-HEARING QUESTIONS

Responses by Mr. Dale Bell

HOUSE COMMITTEE ON SCIENCE, SPACE, AND TECHNOLOGY

"Examining the Overhead Cost of Research"

Mr. Dale Bell, Division Director, Institution and Award Support, National Science Foundation

Questions submitted by Ranking Member Daniel Lipinski, House Committee on Science, Space, and Technology

1. Critics of U.S. universities' indirect cost rates for federally funded research point to lower indirect costs rates in some countries as well as lower indirect cost rates for philanthropic funding to universities. Mr. Luther started to address this in his testimony. How useful do you believe these comparisons to be? What level of detail would you need to know about each country and each philanthropist's funding models to make meaningful comparisons?

   Answer: Indirect cost rates are organization-specific and based on a detailed analysis of historic, verifiable cost data incurred by that organization. Comparisons of indirect cost rates of domestic, foreign, or philanthropically-funded organizations therefore require a full understanding of the cost base methodology being used. Philanthropic organizations, which are not bound by OMB's *Uniform Guidance* requirements for allowable indirect expenses, categorize more of their expenditures as direct costs, which lowers their apparent indirect cost rates. There are also difficulties in comparing U.S. indirect cost rates to other countries' indirect cost rates, due to major differences in the policies for calculating such rates. The mechanisms and formulas used to calculate indirect costs vary from country to country. Where indirect costs are reimbursed as a percentage of direct costs, inclusion or exclusion of certain categories of cost (e.g., researcher salaries) from the direct cost base will have a major bearing on the final reimbursement.

   Some of the major factors influencing differences in indirect cost rates are the following:

   Type of Research or Scientific Fields Supported – A major difference in indirect cost rates is based on the type of research being conducted and the facilities, equipment, and staff/skill mix required on site. For instance, research requiring secure biomedical research laboratories, astronomical telescopes, deep sea submersibles or advanced physics research facilities is costlier than research to conduct economic surveys or to develop and study field collections of biological species. While all these activities contribute to scientific advancement, very different levels of "shared costs" are associated with the types and fields of scientific research being performed.

   Location of the Awardee Organization – Major metropolitan areas generally have higher costs for land and living expenses than more rural areas. In these areas, higher salaries are therefore needed to attract qualified and competitive staff. Geographic-related costs impact indirect costs rates.

Regulatory Requirements – Costs of requirements for managing research efforts contribute to indirect costs borne by universities. In the U.S., such costs include compliance with statutes and regulations protecting the welfare of research subjects, provision of staff and systems support for independent audits, implementation of safety and hazardous substance protective measures, and maintenance of effort reporting systems.

Classification of Costs as Direct or Indirect – Another factor that creates variance of indirect cost rates is the way in which organizations classify costs. Organizations are provided flexibility through the OMB *Uniform Administrative Requirements, Cost Principles and Audit Requirements for Federal Awards (Uniform Guidance)* when classifying costs as direct or indirect. For instance, one organization may classify Information Technology infrastructure as an indirect cost and include this in the indirect cost pool in its entirety. Another organization might directly allocate Information Technology costs by a set amount charged per year per computer. A third entity might charge a base portion of their IT support function as indirect costs while also charging user support for computer station repairs by job ticket as direct costs.

Application Base – The direct cost base on which the indirect cost rate is distributed or applied also impacts the indirect cost rate calculation. Generally, for U.S. colleges and universities, indirect costs are calculated on a Modified Total Direct Cost Base (MTDC). The MTDC is typically defined as total direct costs excluding equipment, participant support costs, and sub-awards in excess of $25,000. Comparisons of rates are further compromised by limitations for certain functions (e.g., administrative costs of academic institutions capped at 26% under the *Uniform Guidance*) or for requirements imposed under certain federal programs. Philanthropic organizations, not bound by *Uniform Guidance* requirements for allowable indirect expenses, categorize more of their investments as direct costs thus lowering their apparent indirect cost rates.

2. It is helpful to us as policy makers to understand the total costs of research, and the respective shares paid by the Federal government, institutions, and other partners. Right now we have a situation in which the negotiated indirect cost rate reflects - or at least should reflect - the true facilities and administrative costs to institutions. But the way the rate is applied to different cost bases is complicated and rarely explained well to policy makers, leading to confusion about who is or should be paying for what. Do you have any recommendations for how to make the system more transparent?

   Answer: The indirect cost rate negotiation protocol is set forth in OMB's *Uniform Guidance*. The objective of the process is to ensure that the Federal Government pays an equitable share of indirect costs directly attributable to the federally-sponsored research being supported.

NSF's policies related to the reimbursement of indirect costs can be found within the *Proposal & Award Policies & Procedures Guide* (PAPPG), at: https://www.nsf.gov/pubs/policydocs/pappg17_1/pappg_10.jsp#XD.

NSF continues to look for ways to strengthen the Agency's stewardship of the research enterprise, in order to ensure efficient and effective use of taxpayer dollars for science research and education. Accountability and oversight for indirect costs results from pre- and post-award efforts on the part of NSF and the organization for which NSF is the cognizant agency.

Organizations for which NSF is the cognizant agency for negotiation of indirect cost rates and which do not have approved award specific rates are required to submit indirect cost proposals to NSF's Cost Analysis and Audit Resolution Branch. The indirect cost rate proposal submission requirements are clearly detailed at: http://www.nsf.gov/bfa/dias/caar/docs/idcsubmissions.pdf.

Responses by Mr. James Luther

HOUSE COMMITTEE ON SCIENCE, SPACE, AND TECHNOLOGY

"Examining the Overhead Cost of Research"

Mr. James Luther, Associate Vice President of Finance & Compliance Officer, Duke University, Chairman of the Board, Council on Government Relations

Questions submitted by Chairman Lamar Smith, House Committee on Science, Space, and Technology

1. The official position of the research university community is that current indirect cost allowances fall far short of reimbursing universities for the full costs of hosting federally-funded research. Nevertheless, the total number of university-based grant applications to the National Science Foundation and other science agencies continues to increase. Furthermore, many universities are prepared to spend even more money in order to recruit high-profile research scientists and build research facilities for the express purpose of attracting more federal research funding. Surely the underlying rationale for these seemingly contradictory circumstances isn't that research universities hope to make up their losses on federal research projects by increasing the volume of such research. Can you please explain?

   Answer: You are correct that universities cannot make up losses on individual grants by receiving more grants. Universities are very clear that we are subsidizing research, according to federal data, 24% of academic R&D - about a third of which is attributable to unreimbursed indirect costs. But as discussed, the universities' objective with sponsored funding is to advance scholarship, national security, health and prosperity – it is not designed to be a net revenue generator. This occurs through the execution of individual grants but also through the synergy between academic instruction and the research mission. Universities are uniquely successful at simultaneously accomplishing grants aims while training the world's future scientific workforce. Just two weeks ago, an article was published about the discovery of a biochemical signaling process that causes the spread of cancer cells. The genesis for this occurred seven years earlier when a university sophomore student raised an idea while spending time in her mentor's lab. As 90% of cancer deaths are related to cancer that metastasizes, this could lead to profoundly positive health outcomes.

   An increase in the total number of university-based grant applications relates to the size of the scientific workforce and the ability of academic scientists to conduct the research they were trained to do. There is a healthy pipeline of scientists, and as the grant environment becomes more competitive, with at times flat or reduced funding, more and more faculty compete for a fixed number of awards in order to continue to support their research and the students and fellows they support; outsized efforts to recruit high-profile researchers is the exception, not the rule.

HOUSE COMMITTEE ON SCIENCE, SPACE, AND TECHNOLOGY

"Examining the Overhead Cost of Research"

Mr. James Luther, Associate Vice President of Finance & Compliance Officer, Duke University, Chairman of the Board, Council on Government Relations

Questions submitted by Ranking Member Daniel Lipinski, House Committee on Science, Space, and Technology

1. Critics of U.S. universities' indirect cost rates for federally funded research point to lower indirect costs rates in some countries as well as lower indirect cost rates for philanthropic funding to universities, as you started to address in your testimony. How useful do you believe these comparisons to be? What level of detail would you need to know about each country and each philanthropist's funding models to make meaningful comparisons?

   Answer: Similar to how foundation budgets are developed and rates are applied, international funding for indirect costs are often not an apples-to-apples comparison. At Duke University, we have various relationships with research conducted around the world and many of these entities have completely different "costing" models -- they often apply F&A to all costs expended on the grant (as opposed to select costs in the U.S.), fund many items directly that the federal government would not fund, and often times the buildings are owned or directly funded by the foreign government. We certainly could learn from these other models and a GAO or NAS study in this area could be fruitful. But it should be noted that although not always fully transparent due to its inherent complexity, our current process ensures proper incentives are aligned with the institution's mission and federal objectives while ensuring that federal sponsors only pay for the costs, both direct and F&A, that directly relate to the specific sponsored research being funded.

2. It is helpful to us as policy makers to understand the total costs of research, and the respective shares paid by the Federal government, institutions, and other partners. Right now we have a situation in which the negotiated indirect cost rate reflects - or at least should reflect - the true facilities and administrative costs to institutions. But the way the rate is applied to different cost bases is complicated and rarely explained well to policy makers, leading to confusion about who is or should be paying for what.

   a. What role should universities play in helping policymakers better understand the amount they are contributing to the nation's research enterprise? How important is it for universities to be forthcoming about the level of institutional support for research and the potential impact of further restrictions on overhead cost reimbursement?

Answer: As full and committed partners, I think it is critical that we improve transparency both in institutional costing practices and levels of university contributed & cost-shared funding. There have been a number of studies that have demonstrated that university funding for research is the stream that is growing at the fastest rate and that universities are covering an expanding portion of the regulatory and compliance burden; this is demonstrated by the number of universities that are farther and farther over the 26% administrative cap implemented in 1991. The number of regulations and policies for which universities must comply in order to receive federal funds has dramatically increased since that time. But this trend in increased university support, including unreimbursed indirect costs, is not sustainable in the current financial environment for any institution, but particularly for public universities and private research institutes such as cancer centers with few other funding streams. Improving transparency will clarify the university's commitment to the partnership and also shed light on the unsustainability of a model that continues to push more and more cost and burden to universities.

b. Do you have any recommendations for how to make the system more transparent?

Answer: We have been greatly encouraged by recent federal opportunities for open dialog. The Research Policy Board might take on this initiative as one of their first agenda items. Certainly an open forum that is jointly sponsored by Congress and the research community focused not on the basic F&A question, but more on the essence of the uniquely American research engine that has proven so successful might be in order. The GAO could be called upon to release an analysis that includes both the current models and potentially cost effective models that would be of benefit to both parties in support of this open forum.

I believe it is critical that we not lose sight of the common goal in this debate. The past several decades have seen the growth and huge success to be realized in this unique partnership. I am not convinced that the community has done an adequate job in making sure that Congress, the American public, and our related allies – foundations, international partners, etc. – are aware of how effective this partnership has been and should continue to be. In light of recent discussions, this is critical.

One other option that has been suggested would be to direct charge everything. While direct charging many of the costs, as many foundations and other entities do, might be more transparent, it would also be a much more labor intensive process for both universities and federal agencies given the volume of federal grants versus that for other entities.

3. The Council on Governmental Relations tracks the increase in regulations since 1991, when the 26 percent cap on the administrative portion of indirect costs was imposed. With the increasing regulatory burden, do you think universities can get their costs back down to within the 26 percent cap through greater efficiency alone?

   Answer: One could argue that instituting a cap 26 years ago that was not indexed to inflation or any other metric, in an environment that, by its nature, will increase in complexity and cost is not realistic. There are new areas of compliance and oversight that were not fully comprehended decades ago.

   To this end, it should be noted that federal reimbursement of administrative costs have not increased anywhere near the rate of the increases in federal compliance costs. The rates of reimbursement have been relatively steady. An evaluation of opportunities to reduce both administrative and compliance burden would be helpful, and in fact there are a number of recent reports and recommendations for reducing federal compliance burden but it is not likely, at this point, with many major universities 5-6 percentage points over that cap, that they can be reduced to such a degree that F&A rates could materially be reduced. It is nonetheless still critical that regulatory burden reduction occur as the current level and growth in federal compliance burden is unsustainable. Reforming federal compliance requirements would allow more institutional funds to be redirected to other programmatic missions. Further, burden reduction will allow individual faculty to focus more on their research and less on administrative responsibilities leading to true efficiencies in the use of federal funds.

4. What are the funding options available to universities to recoup unrecovered facilities and administrative costs? Given the decline in support from state appropriations, do private or public universities have more capacity to absorb under-recovery of indirect costs and what are the potential long term implications of this?

   Answer: The short answer is no. As state appropriations to public institutions have been significantly reduced, tuition increases and other revenue sources have been limited, and most universities don't have endowments (and for those that do the funds are restricted by the donors), additional available funds for research are limited. For many private research institutes that agencies rely on for the conduct of critical research, none of these revenue sources are available. As most universities continue to accept a growing portion of the research costs, it is becoming an unsustainable model.

   If the definition of the government-university research funding partnership changes materially or continues to erode, it is likely that there will be fewer research universities in the future and they will be less diverse. Universities will have to specialize in one specific area of research to develop economies of scale; in some ways this is sensible but in other ways it is in direct conflict with the growing desire to make research more interdisciplinary – this interdisciplinary approach supports the collaborative environment

where a basic scientist, an engineer, an oncologist, and a chemist all work together to solve different aspects of the same research objective. It also means that undergraduates, graduate students and post-docs work in a much more collaborative environment. Materially changing this or allowing the current erosion to continue unabated will lead to short and long-term repercussions. The short-term implications will include hiring freezes, lay-offs of faculty and staff, shuttering programs and buildings, and an overall inability to support federal research at the current capacity. The potential long-term implications are less research, slower scientific progress, fewer medical treatments, fewer jobs, and likely fewer universities conducting research and undergraduates and graduate students educated in a research setting.

Again I would like to emphasize how effective and highly productive the current model has been and will continue to be. We have created a global model, realized immense gains, and built a thriving partnership with proven value. While it is realistic to review the process on a regular basis, taking simplistic action to cut or change F&A recovery of already incurred costs will have a serious, long-term and extremely detrimental effect on a partnership that has proven so very successful and beneficial to America.

5. Some have suggested that replacing the system of variable indirect cost reimbursement rates with a flat reimbursement rate might help manage growing costs, redirect more funds to direct costs, and level the playing field. You discussed in your testimony how rates currently vary by region and institution. Can you discuss the potential impact of a flat reimbursement rate on U.S. universities?

Answer: It is difficult to imagine how a flat reimbursement rate would help manage growing costs as it would simply move more of the responsibility for these costs to institutions. The costs charged on research awards, whether direct or indirect, are the true costs of research and universities cannot continue to absorb an increasing share of these costs. Flat reimbursement would simply compel universities to only select that research that they can afford. Universities would compete aggressively for research that is not as F&A intensive and fewer and fewer universities would conduct research that required more expensive infrastructure; such as vaccine development, advanced robotics, and technologies that require costly biohazardous management practices. Universities wouldn't be able to readily afford research that requires special air-handling, scientific equipment, animal modeling, etc.

It should also be noted that with fewer universities and research labs, any increase in direct funding would not be beneficial. Universities couldn't afford to accept these funds as they would further compound the financial loss (unless it was in non-F&A intensive types of research).

HOUSE COMMITTEE ON SCIENCE, SPACE, AND TECHNOLOGY

"Examining the Overhead Cost of Research"

Mr. James Luther, Associate Vice President of Finance & Compliance Officer, Duke University, Chairman of the Board, Council on Government Relations

Questions submitted by Rep. Jacky Rosen, House Committee on Science, Space, and Technology

1. As someone who spent my career as a computer scientist and systems analyst, I can attest to the fact that overhead costs are real and critical costs of conducting research, and cuts to indirect costs of research are, in fact, cuts to research. You can't do computer science research without high-speed data processing and storage, and that just isn't part of the direct cost of an individual research project. The big mainframe computers I worked with in college weren't purchased for one researcher or one project. That equipment and the maintenance of it cost money, and that money was needed to support multiple students, researchers, and projects. Like back then, overhead costs today can add up to a lot. The University of Nevada, Reno, in my home state, recently told me that increasing overhead costs are in fact hampering the school's ability to conduct research.

    a. If the trend toward higher university contributions to research continues, along with potentially diminished federal support, will universities be able to cover the cost of conducting research? How will research output be affected? How will public institutions fare compared to private institutions?

    Answer: Universities have been funding a growing part of both the research mission as well as the portion of F&A costs. As discussed, NSF estimates it at $16.7 billion and $4.8 billion respectfully.

    As state appropriations to public institutions have been significantly reduced, tuition increases and other revenue sources have been limited, and most universities don't have endowments (and for those that do the funds are restricted by the donors) available funds for research are limited. For many private research institutes that agencies rely on for the conduct of critical research, none of these revenue sources are available. As most universities continue to accept a growing portion of the research costs, it is becoming an unsustainable model.

    The short-term implications will include hiring freezes, lay-offs of faculty and staff, shuttering programs and buildings, and an overall inability to support federal research at the current capacity. The potential long-term implications are less research, slower scientific progress, fewer medical treatments, fewer jobs,

and likely fewer universities conducting research and undergraduates and graduate students educated in a research setting.

Appendix II

Additional Material for the Record

LETTERS SUBMITTED BY SUBCOMMITTEE CHAIRWOMAN BARBARA COMSTOCK

GEORGE MASON UNIVERSITY

Office of the Vice President for Research
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May 18, 2017

Honorable Barbara Comstock
Chairwoman
House Subcommittee on Research
and Technology
Washington, D.C. 20515

Honorable Dan Lipinski
Chairman
House Subcommittee on Research
and Technology
Washington, D.C. 20515

Dear Chairwoman Comstock and Ranking Member Lipinski:

I am writing in reference to the Subcommittee's May 24 hearing to discuss facilities and administrative (F&A) reimbursement rates for non-profit organizations. While I do not have details regarding the full scope of the hearing, I did want to take the opportunity to share with you my (and Mason's) perspectives on F&A rates. Specifically, the recovery of facilities and administrative costs incurred by universities to support cutting-edge research is essential, if US universities are to maintain an active role in fueling the Nation's innovation economy.

Chairwoman Comstock, you and some of your staff, as well as Subcommittee staff, have visited our research facilities and observed firsthand the impact of Federal research investments in our vibrant research enterprise. As you know, our research outcomes have had considerable impact on the economies of Northern Virginia, the Commonwealth, and the Nation. You were able to talk with our faculty and student researchers who shared how their research advances the knowledge frontier, enriches education and the learning outcomes of our students, leads to jobs, and ultimately improves and sometimes saves lives. Our university community is making unique contributions to meeting critical societal needs, such as creating a greatly improved Lyme disease test, identifying new cancer treatments, enhancing our understanding of the role of transnational crime in supporting terrorism, securing our cyber-physical systems, and creating advanced monitoring techniques that improve the safety and cost-effectiveness of our civil infrastructure.

Mr. Lipinski, we know Illinois, too, has first-rate research universities, a number of whom we enjoy active collaborative relationships with on state-of-the-art research projects. Please know we would be delighted to host you here at Mason to share with you some of the groundbreaking work our faculty and students are doing, and to show you the facilities and other support we provide to enable this work.

Mason is a relatively young public R-1 research university – we achieved R-1 designation in 2016. When Mason President Ángel Cabrera testified before your

Committee last September, he discussed some of the challenges Mason faces in building and maintaining research infrastructure essential to supporting the world-class discovery and innovation that fuels our technologically-intensive knowledge-based economy. He described how continuing increases in regulations increase the cost of doing business, while seeking to ensure the responsible conduct of research. Striking the right balance here is critical - something we all are committed to doing. Parenthetically, thank you both for your attention to the issue, as we recognize that much of your legislative proposals have been reflected in the 21st Century CURES Act and in the Defense Authorization bill.

While the cost of performing academic research in the public interest continues to rise, State investments in research and education in public universities are declining. Mason has been able to achieve R-1 ranking while keeping tuition rates among the lowest in the Commonwealth and attaining excellent graduation rates and learning outcomes among all student populations, including an increasing number of community college transfer students. Our university is deeply committed to access, inclusion, and the provision of an affordable world-class education to all.

Like many of our sibling institutions, Mason's F&A rates are set by ONR, and are applied dependent on the type of research activity undertaken and/or its location. Costs recovered by applying the correct F&A rate support both the research infrastructure at Mason that is necessary to conduct world-class research, such as maintenance of our technologically-intensive laboratories on our SciTech campus, as well as administrative activities necessary to comply with federal, state and local government regulations to ensure the responsible conduct of research.

Since the Uniform Guidance issued by the Office of Management and Budget caps the recovery of administrative costs necessary to support research compliance functions, universities are already unable to recover the full cost of doing research sponsored by the Federal Government. In a recent analysis, the University determined that it spends an additional $.18 on research for every dollar received in research awards, demonstrating its ongoing commitment to its research and education mission. The additional costs of doing research are met through philanthropy or are passed on to our students in the form of tuition costs and fees. While our students learn from faculty deeply engaged in innovative research, and from their direct involvement in consequential and impactful research preparing them for today's workforce, such that they are able to enter the innovation workforce prepared to excel, we are deeply concerned about the impact of increasing costs upon our students and their families.

If the Federal Government elects to set lower caps on the recovery of indirect costs from research grants and contracts, the impact on Mason and many other fine universities like ours will be immediate – we would have to opt out of doing research in the technologically-sophisticated STEM fields whose innovations power our regional and national economy, or contemplate the highly undesirable transfer of the cost of doing this research to our students. Neither of these options seems to be in the long-term interests of the Nation.

In closing, I want to thank you both for your thoughtful consideration of these issues, and for your ongoing efforts to ensure our country maintains the robust research enterprise that is essential to innovation and our Nation's economic competitiveness.

Sincerely,

Deborah Crawford, PhD
Vice President for Research

June 7, 2017

The Honorable Barbara Comstock
Chairwoman, Research & Technology Subcommittee
House Science, Space & Technology Committee
Washington, DC 20515

The Honorable Darin LaHood
Chairman, Oversight Subcommittee
House Science, Space & Technology Committee
Washington, DC 20515

The Honorable Dan Lipinski
Ranking Member, Research & Technology Subcommittee
House Science, Space & Technology Committee
Washington, DC 20515

The Honorable Don Beyer
Ranking Member, Oversight Subcommittee
House Science, Space & Technology Committee
Washington, DC 20515

Dear Chairs Comstock and LaHood and Ranking Members Lipinski and Beyer:

Thank you for the opportunity to offer the perspective of research institutions on the important topic of facilities and administrative (F&A) costs of conducting federal research, per the House Science, Space and Technology joint Subcommittee hearing you held on this issue on May 24, 2017. We respectfully submit this letter for the hearing record on behalf of the Association of American Medical Colleges, the Association of American Universities, the Council on Governmental Relations, the Association of Public and Land-grant Universities, the Association of Independent Research Institutes and the American Council on Education.

Our associations appreciate the historically strong and bipartisan support Congress has demonstrated for the scientific research our member institutions perform for the federal government. As the Committee on Science, Space and Technology understands well, the partnership between the federal government and research universities that emerged out of World War II has been indispensable to ensuring our nation's security, improving public health, and enhancing our standard of living. This partnership, where the federal government provides resources so that universities will conduct research on behalf of the government, has fueled U.S. global scientific and economic leadership, resulted in major research advances, and helped to train America's most prominent scientists, engineers, and entrepreneurs. Our institutions continue to make stunning advancements, in areas such as cancer immunotherapy, artificial intelligence, materials science, and behavioral economics, all of which depend on specialized support, physical infrastructure, and human capital.

Research institutions also share the Committee's commitment to see that resources available for scientific research are used optimally and most effectively. F&A costs have been included in federal grants since the 1940s, recognizing that institutions incur expenses related to research that may not be directly attributable project by project, but are essential to conducting research. The most commonplace example is that research labs require heat, lights, power, water, a roof, janitors, etc. of course, modern laboratories are far more complex, requiring sophisticated environmental controls, instrumentation, information technology, and state of the art safety and security to protect personnel and surrounding communities. Depending on the field of investigation, F&A requirements become more varied. Biomedical research, for example, which receives the largest share of federal science funding, depends also on research in clinical environments and medical facilities, use of extensive tissue and sample collections, and scores of professionals to ensure compliance with federal, state, and local regulations on human and animal subject research protections, privacy, health and safety, and for management and technical support.

Attributing these expenditures line-item by line-item on every grant would be an arduous, expensive, and inefficient process, both for the federal government and for the grant recipients. For such reasons, the current government-wide policy of reimbursing F&A expenditures as a rate to be applied to a research project's direct

costs based on the audited real costs for such expenses is a practicable, effective, and efficient approach to supporting these necessary expenditures. The first step in determining F&A charges occurs when each institution negotiates the amount it can be reimbursed for F&A expenses with its respective government auditing agency. The F&A rate is based on what the institution has previously expended for research facilities and operating expenses as determined by and outlined in OMB rules to be necessary and reimbursable costs required to conduct research. The method is standardized across nine categories of expense, each of which must be well-documented and justified in the negotiation process. Once an F&A rate is established, that rate is multiplied against the allowable direct charges in the grant (referred to as the "modified total direct cost" or MTDC) and thus the F&A charge is determined. OMB specifically limits how much universities can be reimbursed for administrative costs.

Some have observed that private foundations treat expenses differently. It is necessary to note that comparing federal F&A reimbursement rates to foundation rates is misleading. Many foundations, such as the Gates Foundation, recognize and allow for certain facilities and/or administrative costs to be charged as *direct* line items on each grant. As James Luther of Duke University presented at the May 24 hearing, the foundation rate may apply to a much larger base than the modified total direct cost noted above. The result is that many of the same costs incur, but with different methods for accounting and paying for them, rather than lower costs paid by foundations. Thus, in their approaches to funding research, both private foundations and the federal government recognize the essential role F&A costs play in conducting high quality and cutting-edge research. It is also important to note that institutions accepting foundation funds accept a cost-share, to strategically advance a specific aspect of the research mission, not the research program overall. Additionally, OMB rules prohibit federal funds from subsidizing research costs of non-federally sponsored research activity.

In facilitating advancements in research, institutions also invest substantially over and above the resources received for sponsored research. A 2015 AAMC study found that on average each medical school invested $111 million dollars or 0.53 cents for every dollar received for sponsored research to support their research programs.[i] All such expenditures serve to make the conduct of science--and the training and provision of new generations of scientists--possible.

The process for F&A reimbursement also supports the government's interest to build and sustain a national infrastructure and capacity for scientific research. U.S. universities and independent research organizations are central to this national interest. This infrastructure would wither if F&A reimbursements are reduced, absent some other major source of public funding. We believe that current policies have been spectacularly successful, reflected in the variety, diversity, and quality of U.S. research institutions. Under this system, research institutions assume the long-term risk of investment in facilities and infrastructure. The research institutions, not the government or taxpayer, must bear the penalty if their facilities are unoccupied with qualified scientists able to successfully compete for research grants.

In summary, F&A expenses are a fundamental and inseparable part of the costs of doing research. A cap, such as the one the administration has proposed for NIH grants, would result in real cuts to high-priority research aimed at finding new cures, improving public health, and growing the economy. Without sufficient federal support for F&A, research institutions would be unable to sustain the scientific infrastructure necessary to conduct this cutting-edge research. Additionally, the notion raised during the hearing of a flat rate -- lower than most current negotiated rates -- would undercut the expenses institutions have incurred and many universities and research institutions would no longer be able to afford to operate extensive research programs, especially as costs rise and alternative funding sources, such as state support, dwindle. A cap or flat rate could well have the unintended long-term consequences of consolidating remaining research programs into fewer institutions by making research

costs prohibitive for smaller and geographically diverse universities and institutions. It could also discourage institutions from pursuing more cutting-edge research requiring specialized facilities.

We are grateful for the Subcommittees' attention and would be happy to answer questions or provide further information.

Sincerely,

Association of American Medical Colleges

Association of American Universities

Council on Governmental Relations

Association of Public and Land-grant Universities

Association of Independent Research Institutes

American Council on Education

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[i] Academic Medicine Investment in Research. Washington, DC: Association of American Medical Colleges. 2015

STATEMENT SUBMITTED BY FULL COMMITTEE RANKING MEMBER
EDDIE BERNICE JOHNSON

OPENING STATEMENT
Ranking Member Eddie Bernice Johnson (D-TX)

Committee on Science, Space & Technology
Subcommittee on Oversight
Subcommittee on Research & Technology
"Examining the Overhead Cost of Research"
May 24, 2017

Thank you to the chairs and ranking members of the Research and Technology and Oversight Subcommittees for holding this hearing on the overhead costs of federally funded research.

The Trump Administration has proposed an 18 percent cut to the National Institutes of Health (NIH), with Secretary Price indicating that those savings can be found entirely by cutting NIH's indirect cost expenditures. The Administration has also proposed an 11 percent cut to the National Science Foundation (NSF). I wouldn't be surprised to hear a similar defense of the NSF cuts. This Administration is assuming they can cut indirect cost reimbursements without doing any harm to our nation's great research universities or to U.S. leadership in science and technology. The evidence simply does not support that assumption.

Both GAO and *Nature* magazine have reported that the reimbursed rates for indirect costs are substantially lower than the negotiated rates – as much as 20 points lower on average. In addition, the data clearly demonstrates universities' willingness to share substantially in the costs of doing cutting-edge science.

Given these facts, it is baffling to me that anyone would assert that universities are profiting from indirect costs. Some of us may be fooled by attention-grabbing talking points about bloated bureaucracies and high negotiated rates, maybe because the system is opaque to us. Some point to international comparisons, highlighting lower indirect cost rates in some other countries. However, without knowing the details for each country, the comparisons of the top lines are meaningless. Likewise, comparisons to philanthropic funding for research are pointless without understanding the details.

Having said that, we can all agree that universities must continue to look for ways to be more efficient, including in their regulatory compliance work. Likewise, Federal agencies must continue to work to streamline their regulations to reduce the unnecessary burden on universities and costs to the taxpayer. And all of us should continue to have discussions about the health and nature of the partnership between the Federal government and the performers of federally funded research, including on policy issues on which we might disagree. But let us be sure that our positions and our arguments are grounded in data based on substantiated and legitimate findings rather than supposition or false equivalencies.

There are always a few bad actors, and oversight remains essential. However, our greatest challenge here is not universities trying to profit from the taxpayers. Our greatest challenge is in achieving transparency about the total costs of doing research and honesty in what is required to maintain U.S. leadership in science and technology. Federally funded scientific research has been a key driver of innovation and economic expansion. We cannot afford to undermine the very institutions that will keep us prosperous into the future.

Before I conclude, I want to comment specifically about public universities. There used to be a cost-sharing compact between state and federal governments for public universities, in which states invested heavily in research facilities to attract more top scientists and federal research dollars. Too many states have been backing away from their end of the deal, and alarms are being raised that student tuition is now being used to subsidize research. This is not sustainable. States must get back to supporting their own institutions. In the meantime, any proposals to cut federal support for indirect costs would do immediate and lasting damage to the research programs at our nation's great public institutions. That would be both a short-term tragedy and a long-term loss for us all.

I thank the witnesses for being here today and I look forward to the testimony and discussion.

I yield back.

