

1 MR. CASTEEN: We have ample time for discussion, but I  
2 thought we would start with comments from the panel.

3 MS. HERRIGAN: One difference between our definition and  
4 Kei's definition is the inclusion of facilities of the facilities  
5 section of the R&D budget.

6 We are perfectly willing to work with agencies and with  
7 other stakeholders to refine our definitions, but we would have  
8 to give that some thought because we very clearly wanted these  
9 methods of allocation to sum to the total amount of research.  
10 And, in fact, our original purpose in coming up with these was  
11 not to get at congressional earmarks per se; that was kind of a  
12 byproduct of coming up with these definitions, which we are very  
13 willing to highlight because our administration supports us on  
14 this issue.

15 I am open to hearing the pros and cons of that, but it  
16 is clearly something that we would have to discuss.

17 Well, why don't you guys go ahead.

18 MR. BRAINARD: As I said, it seems like there is  
19 substantial similarity among the definitions except for your not  
20 including facilities. I mean, a minor difference from what Dan  
21 just said would be that he wouldn't include projects that were  
22 authorized by Congress, but I think those are very rare at the  
23 level of an individual institution.

24 MR. CASTEEN: Anyone else? Okay let's go to discussion  
25 from the floor. There is one microphone that I can see where  
26 George is standing. I think that if you will use the microphone  
27 and give us both your name and your organizational affiliation,  
28 it will help to place the context of the issue.

29 George, do you --

30 MS. HERRIGAN: Could I just say one more thing. Another  
31 difference that we have is that we included non-mission oriented  
32 research, and I would be interested in anyone else's thoughts  
33 about whether that should be included in our definition of  
34 research performed at congressional direction.

35 MR. PEARSON: Well, we thought about that also, but then  
36 there are cases, clearly medical research and DOD kind of flags  
37 their attention saying, "What is this doing here?"

38 But I think in other examples, it wasn't sure if we

1 could draw the line as clearly as to whether a project was or was  
2 not in an agency's mission. And so that is why it was excluded.

3 And also because I guess we wanted to focus on this performance  
4 specific aspect rather than Congress designating a certain topic,  
5 for example.

6 MR. LEVENTHAL: I am George Leventhal, with the  
7 Association of American Universities, one of the organizations  
8 that put this panel together, and thank you so much to John  
9 Casteen and all of the panelists.

10 Dan Pearson uses the word "moral" a couple of times and  
11 I want him to clarify that for me with respect to -- I think we  
12 have a consensus today that we don't view this as a moral issue,  
13 more as an issue of professional standards and practices, public  
14 policy, and science funding policy. So these are issues on which  
15 we can have policy disagreement.

16 Our sense is that however precisely we define it, the  
17 increase is so striking and dramatic over recent years that it  
18 increasingly merits serious consideration as a matter of public  
19 policy and fiscal policy. But it certainly has not been our  
20 desire to cast moral aspersions on anyone who is in the business  
21 of funding science in any particular way.

22 I also want to say that both Mr. Murtha and Mr. Lewis  
23 were substantially supportive of the significant increases in  
24 peer reviewed science and basic science, and, at least in part,  
25 that is the reason why the university association decided to give  
26 them Friends of Science awards.

27 DR. VAITUKAITIS: Hi, I am Judy Vaitukaitis with the  
28 National Institutes of Health. Sarah, I have a question. Is the  
29 specific earmarking for facilities at universities a reflection  
30 of programs addressing the needs?

31 MS. HERRIGAN: Well, that is certainly what we have  
32 heard from people who want facilities. But I think several of  
33 those people are under the mistaken impression that the federal  
34 government should fully fund the cost of research at  
35 universities. And we have spent a considerable amount of time  
36 with the Office of Science and Technology Policy -- granted, this  
37 was in the previous administration -- talking about the  
38 government/university partnership. And we clearly believe that

1 the federal government does not have responsibility for the full  
2 cost of research at universities, that it is a  
3 government/university partnership. And we have made the decision  
4 in several agencies, including the National Science Foundation,  
5 that it is not the National Science Foundation's role to fund  
6 facilities at universities.

7 We do clearly invest a considerable amount in  
8 facilities at universities through indirect costs, or facilities  
9 and administration costs, which we believe is part of the cost of  
10 doing business at universities. But it is not clear, to me at  
11 least, that it is a federal role to fund facilities at  
12 universities.

13 DR. VAITUKAITIS: Isn't it true that costs earmarked  
14 specifically to facilities overhead for the nature of the  
15 research intended go to universities, but smaller schools and  
16 minority-serving institutions are at a disadvantage?

17 MS. HERRIGAN: I don't have those figures right in front  
18 of me. I sure you could make that argument either way.

19 MR. CASTEEN: I see a hand in the back. Could I ask  
20 you to come to the microphone so we can hear you.

21 MS. WELLS: My name is Nan Wells, and I am with  
22 Princeton University. Rob Ketchum and I wrote an article, I guess  
23 it was in 1979, talking about what was going to happen with  
24 earmarks if we didn't get some programs out there. And I think  
25 Mr. Pearson has given us a good idea of the stick part of this  
26 formula, but the lady from NIH was beginning to refer to the  
27 carrot part of it, as well.

28 I think there are a number of programs that could draw  
29 people, some people, away from earmarks and we proposed a revival  
30 at one point of the POSIT program. The programs that revive as  
31 development funds to smaller institutions, and allowed them to  
32 compete against institutions of a similar size and type for funds  
33 to develop, either the whole institution in its science areas,  
34 the departments within those smaller institutions, or colleges.

35 I mean, it was a very nicely phased program. We also  
36 recommended that facilities be supported through the NIH, and I  
37 am sure Sarah is aware that the ones that come through the  
38 indirect cost mechanism come after you have made the investments,

1 so they would be reverse, they are not forward coming, as a  
2 competitive program would be.

3 But I think there are far more creative ways to look at  
4 this. I will be honest. I am like Mr. Pearson, discouraged. I  
5 think now it is so widespread, that it is very difficult to stop.

6 However, I think there are ways to limit, and I think  
7 if we all got together and were a bit more creative, we might be  
8 able to come forward.

9 Now there was one problem at the time that he is  
10 talking about and the time that Rob Ketchum and I were looking  
11 at. And that was that people who saw any appropriations for  
12 research as offsetting, or any appropriations for facilities as  
13 offsetting against the research grants, and there was  
14 considerable opposition from the faculty at that time to getting  
15 involved in funding large facilities programs.

16 There was also concern that if you included facilities  
17 program at the NSF, it would then be subject to earmarking and  
18 would introduce earmarking into the entire agency.

19 So I just add those to the discussion.

20 MS. HERRIGAN: Could I just say that we think \$95  
21 billion a year in federal R&D is an appropriate carrot.

22 MR. PEARSON: Well, I actually meant -- I really  
23 appreciate those comments. I had three different forty-five  
24 minutes talks that I boiled down into one crisp 90-minute  
25 version, but I actually agree that the stick isn't enough, and  
26 those are the kinds of carrots that need to be offered.

27 I think there does need to be a more aggressive effort  
28 by the government to set up facilities programs, not just at NSF,  
29 but also NIH, DOE, wherever it seems appropriate.

30 My committee would be happy to authorize them. I would  
31 hope the appropriators would be happy to fund them. And that  
32 would begin to lure some people away from earmarking. I really  
33 do believe that.

34 MR. CASTEEN: Anyone else?

35 MS. OLSEN: Kathie Olsen, from NASA. Just a follow-up  
36 on the NSF. I had the opportunity of chairing the facility peer-  
37 review grant committee for four years while acting at the  
38 National Science Foundation.

1           And what was really neat about the program is the first  
2 year a school competed against the first tier, the second tier,  
3 third tier. So you really had a sense of competition. And I  
4 believe that over the four years, every single stage did receive  
5 a peer review grant facility. And so again that was positive.

6           But I agree with Sarah in terms of, what is the role of  
7 federal government in terms of supporting R&D?

8           But what I wanted to say is that NASA, to cover the  
9 earmarks that was given to the Office of Biological and Physical  
10 Research, has, cut more than just the life sciences grants. And  
11 that has been put in the Chronicle, the Post, et cetera.

12           We had to cut 5 percent of all of the grants, physical  
13 sciences, commercial centers, our institutes. So basically 80  
14 percent of our programs are given peer review grants, and we had  
15 to cut 5 percent of the entire amount.

16           What's interesting about that is that the number one  
17 complaint that I got was not from the Principal Investigators,  
18 and actually my last job of doing it is if they feel the pain,  
19 they will complain. If I spread it out, what happens is when you  
20 say, "Well, I am going to limit the amount of grants I am going  
21 to make in the next year, then by 10 percent, those people don't  
22 understand the impact of these earmarks.

23           But my biggest complaint came from the universities  
24 that got these earmarks because their PIs that were cut went to  
25 their vice-president of research for their administration, and I  
26 was called, and then Golden was called, because I was hurting  
27 their PIS, and actually targeting their PIs. And that is just a  
28 follow-up in terms of what you said, but thank you.

29           MR. GREENBERG: Dan Greenberg. Every five years of so  
30 an incident of NIH and some other agencies go through an exercise  
31 in which they review their peer review system and conclude that  
32 in certain cases it is risk averse, in some cases sterile, and  
33 decide they are going to make it over. NIH is currently going  
34 through this sort of exercise.

35           Where is there evidence that peer-review produces  
36 purely scientific outcomes relative to what happens under the  
37 congressional pork system?

38           MS. HARRIGAN: That is certainly an interesting

1 question, and one that we are trying to get at through the  
2 Government Performance and Results Act. And we would agree with  
3 you that there are limitations of the peer review system. And I  
4 think that is what I was referring to earlier, when we came up  
5 with our five different categories and pointed out that there are  
6 some cases where the peer review system is not an appropriate  
7 mechanism.

8 In fact, if a program manager is appropriately managing  
9 his or her portfolio, there should be some very high risk kinds  
10 of projects funded that would never be able to pass peer review.

11 And, in fact, an agency like NSF has that option with  
12 their Small Grants for Exploratory Research where program  
13 managers have the option of allocating, I believe it is up to 5  
14 percent of their program funds, for very high risk kinds of  
15 research that would not survive a peer review system.

16 So I think we are sensitive to the portfolio and to the  
17 limitations of the peer review system, but we would argue that  
18 for the vast majority of funds, that peer review is an  
19 appropriate mechanism.

20 MR. PEARSON: Can I add something, Dan? You and I have  
21 a long history on this issue, and I know where you have stood  
22 during George's fight, and you probably know where I stand.

23 I can tell you we did get a very useful document once  
24 from the Department of Energy. It was always hard to get  
25 agencies to tell us what they had to give up to fund their  
26 earmarks. But in return for funding various medical facilities,  
27 including building a telemedicine facility at OHSU out in Oregon,  
28 DOE specified that they had to cut their biological research into  
29 comparative DNA analysis by \$852,000. They cut their structural  
30 biology program by \$489,000. I can go on and on. It goes on for  
31 pages here. So it is not always even a question of which science  
32 would be good science. It's, do you build bricks and mortar? It  
33 does nothing for the agency. Or, do you actually help the agency  
34 do the science we intend them to do?

35 This is why I think ignoring facilities costs is really  
36 a non-starter. Facilities eat an enormous proportion of the  
37 earmarked money, and that money does come from research accounts.

38 I think Kathie's story points that out as well. The

1 same thing happened, by the way, about a decade ago at Navy.  
2 They tried to do exactly the same thing, and they got exactly the  
3 same response.

4 MR. BRAINARD: I would just add that I think it is a  
5 good point to point out that there is a relative absence of solid  
6 evidence about the efficacy of the peer review system. It seems  
7 to have evolved more as a culturally sort of acknowledged  
8 mechanism for distributing funds.

9 But I mean, I guess I would just encourage all of us to  
10 consider whether the alternative of congressionally selected  
11 projects on the face of it, is better, given that the staff  
12 members and members of Congress are getting proposals directly  
13 from universities, do not necessarily have a whole lot of  
14 technical expertise, and are not in a position to compare those  
15 requests with a range of other possibly similar requests from  
16 across the country.

17 MR. MALAKOFF: I am David Malakoff from Science  
18 Magazine. I am curious if the panel had any comments on the  
19 politics of this in an era of a contracting economy. There is  
20 one analysis that says that earmarks was made possible by the  
21 surpluses and the fact that you could have these earmarks  
22 essentially without taking any political strikes. You could  
23 essentially add, you could plus-up the budgets without taking  
24 money away from any other important constituency.

25 And they are predicting that no matter this effort, or  
26 any other effort, you are going to see a decline in earmarks  
27 because you are no longer going to be able to plus-up the budget  
28 without cutting somebody else's program.

29 MR. KOIZUMI: I think we may start to see that because  
30 a lot of this change has actually taken place between July and  
31 September. I mean, suddenly the surplus projections changed, and  
32 looking at surpluses, looking at deficits, and also because of  
33 the terrorist attacks. And most of the bills that we were  
34 looking at were written before July, in June and July, when  
35 surplus projections were still rather robust.

36 And I guess what will be interesting to see is, as  
37 these conference reports come out, and they have to be drafted in  
38 a much changed budgetary outlook, and also with a budget ceiling

1 that the President and Congress just agreed to yesterday, which I  
2 think they really intend to enforce this year, so it will be  
3 interesting to see comparing the House bills and the Senate  
4 bills, and then the conference reports, how that is going to play  
5 out.

6 I suspect they will not be able to just fund all those  
7 House earmarks and all of the Senate earmarks and just make  
8 everyone happy. But they are going to have to make some choices.  
9 Either that, or they are going to have to cut pretty deeply into  
10 the core programs, which I don't think anyone really wants to do.

11 MR. LUBELL: I'm Mike Lubell with the American Physical  
12 Society, and I am also the chairman of the physics department at  
13 a university in New York, and I still do research. I have been a  
14 recipient of many federal grants and a reviewer of many.

15 I would like to make a comment, Dan Greenberg brought  
16 up the issue, of whether, in fact, peer review is a valid system.  
17 And then the issue of much ado about risk averse management.

18 As a reviewer of proposals, I think virtually every  
19 scientists takes a risk adverse approach. We don't cut people a  
20 hell of a lot of slack. And it is easy to have administrators,  
21 as indicated at NSF, be in a position to make a decision to fund  
22 things that they consider to be high risk. The scientific  
23 community, itself, can expect there to be a review of it. I  
24 think part of it is that the feeling is that if money goes to  
25 finance a high risk project, that is money that is taken from  
26 somebody else who has some very worthy project.

27 And this is a serious issue. I would not suggest to  
28 anybody that earmarking is a solution, but I do worry about  
29 another part of the issue. And that is that today, of course I  
30 think there is great recognition that science and technology, and  
31 science education tend to be engines of that economic role. And  
32 if you look at the demographics, you will find that students who  
33 have training in the universities, people who go to the research  
34 universities, have something to do with the economic development  
35 of those areas.

36 And when you start looking you say, "We did everything  
37 in peer review research, the haves become greater and the have-  
38 nots lose out. I think that was perhaps in trying to get some

1 more program money into development.

2           There is another issue there that I think we have to  
3 grapple with. I don't think it is an easy question and answer,  
4 and I am wondering whether the issue, whether it would be a cap  
5 that is agreed to, or earmarks, whether, in fact, you can somehow  
6 make earmarks pass some kind of hurdle, is it good science?  
7 Forget about whether it is the best, or you are going to  
8 prioritize it, but does it qualify? And that is the issue. Do  
9 you find that it is bricks and mortar without it?

10           That seems to me to be at least some of the issues we  
11 are looking to consider. Perhaps we can come to some kind of  
12 understanding here.

13           MS. HERRIGAN: If I could just reply to that. As I said  
14 earlier, we have been very sensitive to the problem of risk  
15 aversion. And one thing we have suggested to agencies -- they  
16 haven't taken us up on it yet -- is to institutionalize that.  
17 Most of the grants at NSF and NIH, I believe, are awarded on the  
18 basis of the best score.

19           And we proposed that you have some money set aside for  
20 the best scoring grant proposals, but you have another pot of  
21 money that is set aside for the proposals that have the highest  
22 standard deviation of scores, thinking that if a proposal gets a  
23 couple of excellents and a couple of poors, it is probably very  
24 interesting research. And if you institutionalize that into the  
25 process, that may be one way of getting the scientific community  
26 to want to take more risks.

27           MR. MOORE: I am J.B. Moore from Tulane University. And  
28 Sarah, I just wanted to mention that much of the use of these  
29 classifications was very helpful in terms of bringing forward the  
30 discussion of earmarking and helping bring more clarification to  
31 it, and more organization to it. I have two comments, or  
32 questions I should say.

33           One is I would very much like to hear your thoughts on  
34 the pros and cons of including what had been suggested earlier by  
35 the panel in the definition of earmarking. That is, that if a  
36 project is authorized by Congress, then it is not considered an  
37 earmark, particularly given the fact that the opposition process  
38 is somewhat similar in purpose to the congressional branch, to

1 what the budget process is in the executive branch.

2 The second question is, nineteen plus billion dollars  
3 of the funding that we have through your survey basically is not  
4 peer reviewed, it is not reviewed externally by the scientific  
5 peers. I was just wondering if, after you gathered this, if  
6 there any concern at all of the fact that as high a percentage is  
7 awarded without peer review?

8 MS. HARRIGAN: Let me take on the second one first. We  
9 are very early in this data collection, and we actually collected  
10 data two years ago in three different categories which we did not  
11 publish in the budget because it really takes awhile for a data  
12 collection to settle down and for agencies to agree on what is  
13 really being asked for, and to be able to come up with a  
14 consistent data set.

15 This is very early in the process. We had one year of  
16 data that we thought was good enough to publish, which we did  
17 last year. And we will certainly continue to collect these data.  
18 And we will be looking at these various categories. Our current  
19 administration is very much encouraging us to do that.

20 As I did point out, though, we do think that there are  
21 reasons for having programs in some of those other categories. I  
22 mentioned DOD is very insistent that its programs with internal  
23 review by its program managers are equivalent to the peer review  
24 process that many of us are used to seeing at agencies like NIH  
25 and NSF.

26 We have not particularly discussed the authorization  
27 proposal, and quite frankly, it doesn't seem particularly  
28 relevant to my branch. The agencies that we cover are NASA and  
29 the National Science Foundation, both of which have very broad  
30 authorizations, and specific projects are very seldom authorized  
31 at NASA or NSF. So we really haven't thought about that, but I  
32 have certainly heard that today and will take that back.

33 MR. PEARSON: I guess I should add something since I  
34 raised the issue.

35 The reality is that we don't get a lot of  
36 authorizations turned into law. The House moves all of their  
37 authorizations, and the Senate sits on most of them. NASA has  
38 one. NSF has one. Those are the two that we can get through.

1 The Department of Energy may end up with one yet. But we don't  
2 do a lot of institution-specific style authorizations in the  
3 House.

4 I don't think Mr. Brown, when he included that in his  
5 definition, envisioned that he would simply make authorizing  
6 chairs players in his process the way appropriations cardinals  
7 work.

8 I think he thought that if someone were to come to us,  
9 we would set up a general program that would authorize the  
10 problem that you were trying to solve, rather than the  
11 institution you wanted to assign the money to.

12 And I don't know if the current chairman will take a  
13 different view or not. No one has come to him, to my knowledge,  
14 and asked him to do anything differently.

15 The reality is, as someone else in the panel said,  
16 there are not many authorized programs. Every year we would go  
17 through this and we would find two out of hundreds that were  
18 actually authorized.

19 And every year we had reminders, "Oh, yeah, that one is  
20 authorized. Back it out of the totals."

21 A PARTICIPANT: Al Teich from AAAS. I was struck in  
22 listening to Dan's talk with how much seems to have changed since  
23 George Brown's campaign of 1992 or 1993, particularly the notion that  
24 somehow these earmarks are, as he said, like mushrooms, and they  
25 flourish in the dark, and when you expose them to the light, they are  
26 going to die. The idea of shaming institutions and members into  
27 submission by revealing their earmarks strikes me as somewhat out of  
28 date perhaps.

29 I go to trustees' meetings on college campuses and I hear Members  
30 of Congress brag about the earmarks they have brought to the campus  
31 and get cheered by the trustees. I go to campuses and see laundry  
32 lists of this year's earmarks, prepared by administrators, indicating  
33 which earmarks we are going to pursue this year, and how we are going  
34 to pursue them, etc.

35 What do you do in an atmosphere where there doesn't seem to be  
36 any shame left in connection with earmarks?

37 MR. PEARSON: I agree with everything you said, Al, except  
38 no one is trying to shame them now. That's the reality. I haven't seen

1 a, "Your Money" segment on ABC in years that profiled some wasteful  
2 spending project.

3 I mean we, as staff, when we would go out and do field visits, I  
4 will be candid with you, we would look for good camera angles that we  
5 could sell to reporters. We would tell them what to look for. That was  
6 part of our job. And I don't see anyone doing that.

7 John McCain does these sort of big pork buster approaches that  
8 don't single things out at a very low level of detail.  
9 If schools see themselves on television in an unflattering light,  
10 trustees stop cheering. Not all schools, not all trustees, but it  
11 changes the environment.

12 Whether anyone has the nerve to do that again. And I am not sure  
13 George should have, frankly. I don't know.

14 MS. HARRIGAN: I would just like to commiserate with  
15 you, Al. I recently interviewed for a position at a university  
16 that will remain unnamed. And I asked them in the interview  
17 process, "Have you solicited or accepted earmarks?"

18 And she said, "Oh, yes. Lots of them."

19 A PARTICIPANT: I am Bob from Georgia University. I  
20 wanted to go back to the question that Dan Greenberg asked and  
21 ask, what is the evidence? And I guess I was going to ask what  
22 you have found yourself because you have been studying this for a  
23 long time. But my sense is that we do have an extraordinary case  
24 study that we are actually looking at where the appropriations  
25 sub-committee has been able to hold the budget down to a finely  
26 refined level for a very long time, and that was USDA, for a very  
27 long time. And actually I think you could get an evaluation of  
28 the quality of science if you do that for a two or three decade  
29 period, then you carry that through two or three decades at NSF  
30 and NIH. I think there is more of a historical case study that  
31 you could do than has been done by the scholars in this area.  
32 That it is about productivity. It is about the quality of  
33 science.

34 So I would suggest that that is someplace to look that  
35 has been pretty well documented.

36 The other point about peer review is that it is  
37 compared to what? Because I think there would be a lot of people  
38 who would say peer review is not always a testing of using this

1 money more efficiently at NIH or NSF. That's not necessarily  
2 peer review. So I don't think you could link those two things  
3 quite so quickly into one question. It is not earmarks versus  
4 peer review. It is earmarks compared to what?

5 MR. PEARSON: I don't think the cases are very  
6 comparable. The control of USDA's budget obviously went to land  
7 grant colleges that historically had strength in agriculture. It  
8 was a system of a kind, in fact, it is a system that Mr. Brown  
9 didn't particularly object to.

10 I do agree that it is not peer review versus earmarks.  
11 It is competent civil servants with a mission based in law, and  
12 a budget answerable to the President and the Congress, making  
13 determination over how best to spend taxpayer dollars, versus  
14 staff like me who don't know much except zip codes making  
15 determinations about where the money should go.

16 And I think that the premise of Dan's comment was --  
17 and Mike Lubell sort of got at this -- the premise was, "Well,  
18 earmarking is a counter balance to peer review in its  
19 conservatism."

20 And I think Mike Lubell was right to say, "Well, I  
21 wouldn't suggest that it actually is an answer to conservatism in  
22 peer review."

23 I think that if you look at who gets the money, it is  
24 an answer to political power. The people who distribute the  
25 money distribute it because of where they are, and they  
26 distribute it to their districts or their states.

27 And I understand that. I am a political creature, too.  
28 But is that an efficient way to fund research? It is an  
29 efficient way to spread money, but is it an efficient way to fund  
30 research? And I don't believe it is.

31 But this is a fascinating issue, and I would love to go  
32 on at some length if someone would pay me to actually do this  
33 work. Which George used to do, but no one does today.

34  
35 MR. CASTEEN: Maybe this would be the time to take our  
36 break. And we will convene, let's say at 3:30 for the second  
37 panel.

38 Let me thank you all that have served on this panel

1 very much.  
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