To: Ross Corson

From: Jim Turner (202) 225-8128
jim.turner@mail.house.gov

Congressman George Brown asked me to gather some information for you for speeches by Mr. Mondale.

Attached is some information from (1) the Science Committee Democratic Home Page: http://www.house.gov/science_democrats/ and (2) the NIH Division of Research and Grants home page. http://www.drg.nih.gov/pubs/publist.htm

The bottom line to Mr. Mondale's question is that less than one ~~the~~ quarter of worthy NIH proposals are funded.

Also it will be worth your while to look at the American Association for the Advancement of Science web site's budget + policy page
http://www.aaas.org/spp/dspp/rd/rdwwwpg.htm

Call or e-mail me if you need more help.

Washington, and conclude by raising the spectre of what could happen to our global scientific and technological culture if we fail to more fully involve the majority of our citizens in achieving a more rational and productive approach to solving our global problems.

Over the past year and a half, we in the Congress, and particularly in the House, have been subjected to a debate marked by stark and simplistic positions on what the federal role should be in technology development. As a result, a deeper understanding of the issues involved has not been accomplished, much to my regret. Given the level of energy and the amount of political capital expended, this could have been an opportunity for public and Congressional education, rather than an exercise in defending political dogma. For this, both the Democrats and Republicans are to blame.

In a nutshell, the policy arguments break down as follows. The dominant faction of Republicans believe that technology development by U.S. industry is best achieved by lowering the cost of money through reducing government spending and tax cuts, both in general tax rates and capital gains rates, and by freeing the private sector from burdensome regulations, thereby allowing industry to make the needed sound investments in technology development. Supporters of this position want to let the market be the sole decision-maker, and they feel that taking money away from people in taxes and returning it to them in the form of government services such as education and technology grants and partnerships is the wrong way to go.

Most Democrats favor the approach of having the Federal Government cooperate with industry by providing seed money to match and leverage private-sector money, focused on areas of critical technological needs and opportunities, and by providing greater investments in human and knowledge capital, including education, research and development, and technology transfer. This is the basis of the ATP, the TRP, and other partnerships such as cooperative research and development agreements (CRADAs). This approach builds on the examples of federal investments made in other areas of technology development over the last 100 years. These investments have produced improved agricultural technology, hydroelectric and nuclear power, the aerospace and aeronautics industry, computers, biotechnology, and a host of other advances. This approach does not preclude tax cuts and reduced regulation, but does not rely as completely on such policy tools.

The differences between these two courses, that is indirect incentives like tax and regulatory relief, and more direct incentives such as knowledge-based investments and technology partnerships, has been unnecessarily polarized, with Democrats attacking the Republicans as endorsing tax give-aways for the rich, and Republicans attacking Democrats for funding corporate welfare. As I stated at the outset of my remarks, both of these positions are overly simplistic political positions embraced on each side with stirring rhetoric for presumed partisan gain.

You all know that the role of the Federal Government in technology development is complex, varies by industry, size of company, and other structural characteristics, and changes over time, just as markets change over time. What we should be looking at is how we can infuse this debate with more facts, and how we can develop a better understanding among policy makers of the issues involved. That should be a major part of the mission of those of you who are involved, on a daily basis, in the process of who are involved, on a daily basis, in the process of technology development to meet rapidly changing markets.

Now, I am an unashamed advocate of more direct federal involvement in the science and technology enterprise, coupled with a better understanding of industry needs and more effective cooperation in meeting those needs. I have spent too many years fighting the concept that government and industry must be adversaries, to want to return to that situation. I feel that those who decry "corporate welfare" overlook or disregard the successful investments made by the Department of Defense, NIH, the Department of Agriculture, Energy, and others, in aerospace, aeronautics, electronics, computers, biotechnology, and a host of other areas, all of which have benefited by being directly or tangentially related to the national security, health and productivity needs of this Nation. Today our primary need as a nation is to remain competitive with other global players across the spectrum of developing technologies vital to global markets. To achieve this, Government and Industry must work together more effectively than ever before. Without these effective partnerships we would not have been in the past, nor will we in the future, be world leaders in space and satellite capability, we would not have GPS and GIS industries on the verge of multi-billion dollar global markets, we would not lead the world in commercial aircraft manufacturing, nor would we have the world's pre-eminent computer industry, global communications, networks, software, agricultural industry, health system and many other world class industrial achievements.

Likewise, without the Federal Government we would not have the skilled human resources that develop these technologies. The Federal Government is responsible for our system of universally available higher education, starting with the development of our system of public land-grant universities in the 1860s. We have continued on that path through education funding programs like the GI Bill, Stafford, and Pell Grants and through the removal of barriers to education under a variety of Civil Rights Bills. Advanced science and engineering education is further supported by federal R&D funding. Without this effort, the talent represented by you in this room would be greatly diminished and our debate on technology policy might be an academic one.

I could go on to detail every point at which the Federal Government directly or indirectly supports commercial technology development, but I won't. Most of them have long since become widely accepted. The myriad ways that we support this process are so numerous that they have become invisible to those who today criticize strong federal involvement in science and technology. If we were to truly end a strong federal role in support of technology development, and I mean end it across the board, at every point of support, our economy would falter and possibly fail. I am not ready to accept that and I hope that you are not either.

But no sane person is advocating that extreme position. What we are debating is how best to spend scarce federal dollars, directly or indirectly, in support of advanced technologies that will provide sustainable growth, job security, and improved standards of living for the people of this Nation. This deliberative process, unlike the one taking place in Congress today, involves finding the answers to a set of complex questions that we started asking ourselves in the Science Committee many years ago, and particularly during the four years in which I served as particularly during the four years in which I served as Chair. Your organization, and others, have been going through that same process.

When these programs of cooperative technology development, such as the ATP, were initiated during the Reagan Administration, and expanded during the Bush Administration, we on the Science Committee began to look more closely at the policy direction and goals of these efforts. When we observed that the United States was falling behind other nations in a number of scientific and high technology areas, we asked how this was being measured. How do you develop a metric for competitiveness, and how do you judge whether specific federal actions are affecting our competitive position?

If these programs were to expand, there might be budgetary impacts that would conflict with the need to reduce federal spending. Given the high "opportunity cost" of a federal dollar, we asked if it were better to invest a federal dollar in tax cuts, or in direct investments through programs like the ATP or Manufacturing Extension Programs (MEP). We discussed the targets of these programs, asking if we should differentiate between a U.S. company and a foreign-owned company doing significant value-added manufacturing in the U.S.

During the past five years, none of these questions have been fully answered. We are still searching for good ideas, but we have no generally accepted metric by which to evaluate them or to compare the impacts of the alternatives being offered. We have not had a basic, factual debate about the topic of this meeting: what is the role of the Federal Government in technology development? Neither side in this debate has offered clear-cut and defensible answers to these questions, which would enable us to judge and compare the worth of the various proposals.

This is where groups such as IEEE can make a large contribution. Many of your members, most of you in this room, have to struggle with the processes of technology development on a daily basis. You probably have some of the answers to the questions surrounding this issue, or at least could help narrow the scope of the questions. You could inform the policy process as to how practical decisions are made in this area. You could tell us what pressures you face that we might affect with different federal policies. You could help us determine the right mix of tax policy and direct cooperation that was desirable for achieving growth in area X or industry Y.

But you also need to use your membership to engage in a broader process of educating legislators and the public. Professional science and engineering societies should be using their local chapters and regional sections to interact with Members of the House and Senate. These Members should be helped to realize that these seemingly arcane debates about technology development have a local face at high technology companies in their state or district, or at colleges and universities at home. They need to gain a better understanding of your world and the realities of our science and technology efforts.

To help motivate you let me give you an actual quote from a Member of Congress who is critical of federal funding of research and development programs. This unnamed Member said that, "government should stop supporting scientific research, inasmuch as all of the universities are doing it anyway." That one person in this society, let alone a Member of Congress, should have this view of how our science and technology enterprise works is a clear signal of how we and technology enterprise works is a clear signal of how we have neglected the vital task of educating the public.

Now one could conclude that you have gotten just what you deserved by asking a politician to address you this morning. I have given you few answers, raised many questions, and placed the responsibility for fixing the problem on you. But you shouldn't feel alone! I have been doing this for many years in most of the speeches I have given to science, engineering and academic audiences. Particularly, since the level of debate in Congress has degraded, I have taken up the task of trying to energize this community to get more involved in charting and influencing the direction in which modern scientific culture is taking us. Unless we do so the progress we have made toward achieving global markets, based upon a structure of global science and technology, and guided by rational decision-making aimed at achieving the progress of all peoples, may falter. We have come uncomfortably close to this outcome in recent history.

Let me conclude by looking back at a previous time in history when science and technology emerged and flourished, and briefly appeared to herald a new and more rational era in human civilization, but failed to achieve its promise. As a result of that failure civilization regressed back to its mythological and magical antecedents. More than a thousand years went by before the modern age of science and technology began to reemerge.

This earlier period has been described by Herbert Muller in his great work, "The Loom of History" (1958) in which he pictures Greek Science during the Golden Age of Greece and the Hellenistic Age of Alexander the Great that followed, nearly 2500 years ago.

Muller notes that:

> "We... owe to the Hellenistic Greeks the first public libraries, beginning with the famous Museum set up by the Ptolemies in Alexandria... which was not only a great library but a research institute, equipped with an observatory, a Zoo, a botanical garden, and dissecting rooms, and staffed by a hundred professors to train scholars, scientists, and technicians. It inaugurated... the Age of the Textbook... an unexciting development, but a significant stage in human progress."

> "The[ir] achievement [of the Hellenistic Greeks] in science was comparable, but much more significant [than their achievements in art].... Athens saw a remarkable physicist in Strato, a foreigner from [Ionia]... who appears to have developed and applied the experimental method...."

> "Cicero quotes Strato as saying that he does not use the help of the Gods to make the world... that everything that exists is the work of nature."

Muller goes on to list other achievements:

> "...[F]rom Asia Minor [a part of Hellenic Greece] came more "fathers" [of science]: In anatomy Herophilus of Chalcedon, in

physiology Erisistratus of Chios. As original was the Astronomer Aristarchus of Samos, a pupil of Strato, who was the first to offer a heliocentric of "Copernican" theory of the universe. Another astronomer, Hipparchus of Nicaea, invented trigonometry for the sake of his extraordinarily accurate calculations. In mathematics the Hellenistic classic is the 'Elements' of Euclid, but as brilliant a pioneer was Apollonius of Perge. A still greater mathematician, Archimedes of Syracuse, was also the greatest engineer and inventor of antiquity, laying the foundation of the science of Mechanics."

Muller goes on the say that these great achievements

"failed to revolutionize Greek thought or life. The experimental method of Strato was not developed; the basic natural science of physics, virtually ended with him. Archimedes' science of mechanics was likewise stillborn... [the Greeks] made practical use of their knowledge chiefly in producing engines of war and elaborate gadgets for the wealthy... with an almost unerring instinct the Greeks turned away from the most fruitful theories, such as the evolutionary of Anaximander, the atomic of Democritus and the heliocentric of Aristarchus."

I cite this work of Muller only to raise some profound questions:

- Are we doing better than the Ancient Greeks?
- Has modern science and technology really revolutionized the condition of modern man?
- Are we any closer to the dream described to Alexander the Great, of "world unity, and empire bound by brotherhood," in which "all Greek cities would be free and independent?"

I firmly believe that history will not repeat itself, that we will not regress from the heights of present human culture, based upon rational science, back to another 1000 years of domination by mythology and magic. However, the last year and a half in Congress has not given me all of the assurance that I would like.

We can and must do better. Thank you.

EMPHASIZING INVESTMENT IN R&D

A Proposal for a Balanced Budget
Presented by the Honorable

GEORGE E. BROWN, JR.

Ranking Democratic Member
Committee on Science
U.S. House of Representatives
September 25, 1996

The current political debate over balancing the budget has not fully recognized the proper role of Federal spending in certain investment areas such as R&D which can stimulate productivity and have positive benefits for economic growth. Although more difficult for economists to quantify and longer term in nature, R&D investments can have substantial economic dividends just as eliminating the deficit does in current budgetary scoring rules.

This proposal illustrates one possible approach to achieving a balanced budget by the year 2002 while maintaining such R&D investments. The goal of this proposal is to demonstrate the feasibility of reorienting our national priorities towards investment rather than consumption and to offer an alternative to the current competing budget proposals.

A central feature of this budget is the proposal for a 5% annual increase for all Federal R&D. This provides about $38 billion more than the President and $49 billion more than the Republicans for R&D over the six year period. (Figure 1)

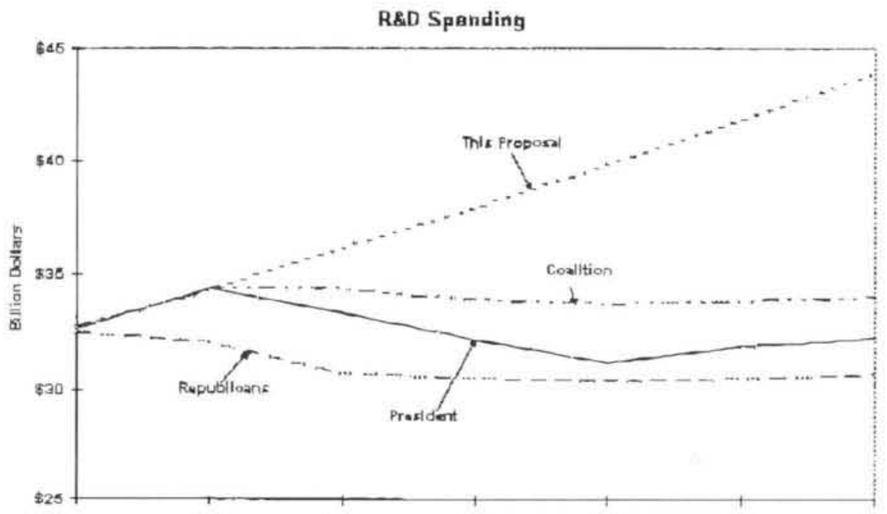


Figure 1

This increase is intended to ensure that overall investment in R&D will keep pace with, and establish a strong relationship with, the growth of the overall economy. The objective here is to encourage overall strong relationship with, the growth of the overall economy. The objective here is to encourage overall R&D expenditures, both public and private, to maintain the current investment ratio with respect to the GDP, about 2.4%. If industrial R&D, which comprises more than half of all R&D expenditures, performs moderately well and responds to Federal funding trends and to other policies intended to encourage private investment, this goal will be maintained. If successful, this combination of increased public and private investment in R&D will reverse the declining national trend which has attracted widespread concern. (Figure 2)

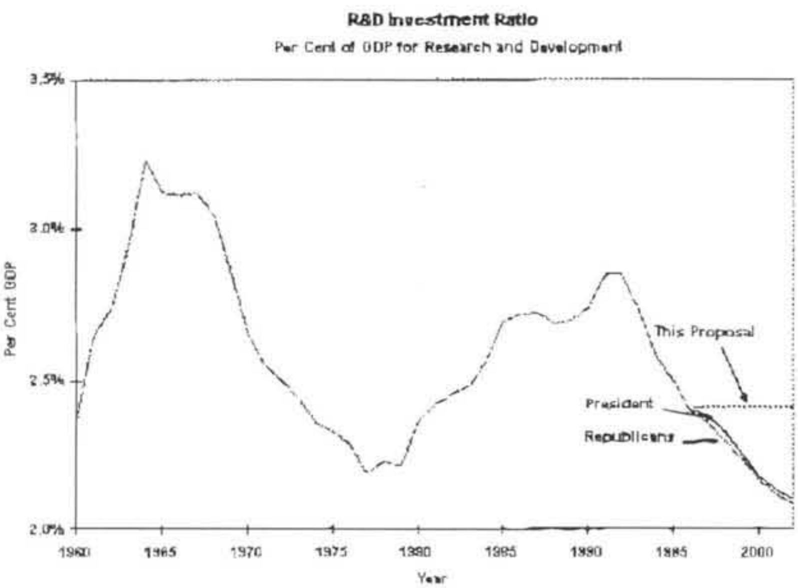


Figure 2

It should be mentioned, however, that this proposal simply freezes the current investment ratio; it does not recover the investment ratio of about 3% of the GDP that has been advocated by many, nor does it guarantee that the U.S. will remain competitive with the Japanese and other industrial competitors who are surpassing us in the percent of GDP dedicated to R&D investments. Reaching the 3% goal, which was proposed by the Office of Science and Technology Policy in 1994 *[1]*, and remaining abreast of our international competitors must be addressed after the budget is in balance -- that is, beginning in the year 2002.

Past attempts to structure policies aimed at providing such sustained growth for R&D have been frustrated by the reality that the overall Federal budget is a zero sum game*[2]*. Increases in one area must be offset by decreases in other areas. Thus, this balanced budget proposal takes account of the need to consider all elements of the Federal budget. It represents one example of how R&D **can** be provided a positive growth envelope within a balanced budget context. Basic features of this proposal are as follows:

- For Defense discretionary spending, this proposal maintains Defense at the President's 1997 request level throughout the six year period. This spending profile does not include the reductions contained in the President's proposal in the next two fiscal years nor does it include the increases in the out years. (Figure 3) This proposal does not include the higher Defense spending levels proposed by the Republicans for unrequested new projects*[3]*. For Defense R&D, which comprises more than half of all Federal R&D, growth would primarily take place in the basic and applied research categories rather than weapons systems development.

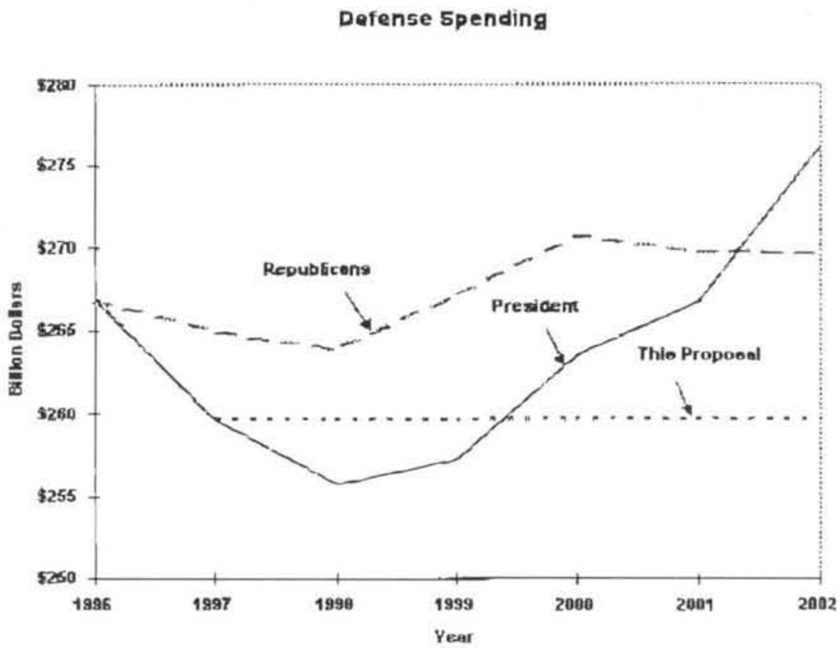


Figure 3

- In other areas of domestic discretionary spending, this proposal provides stable funding throughout the six year period and avoids the potential reductions that would be necessary to balance the President's budget or the reductions advocated in the Republican budget. This proposal provides about $33 billion more than the President and $103 billion more than the Republicans for non-R&D related domestic discretionary spending. (Figure 4) This can be used for other investment categories such as physical capital, and education and training that have a long term economic benefit.

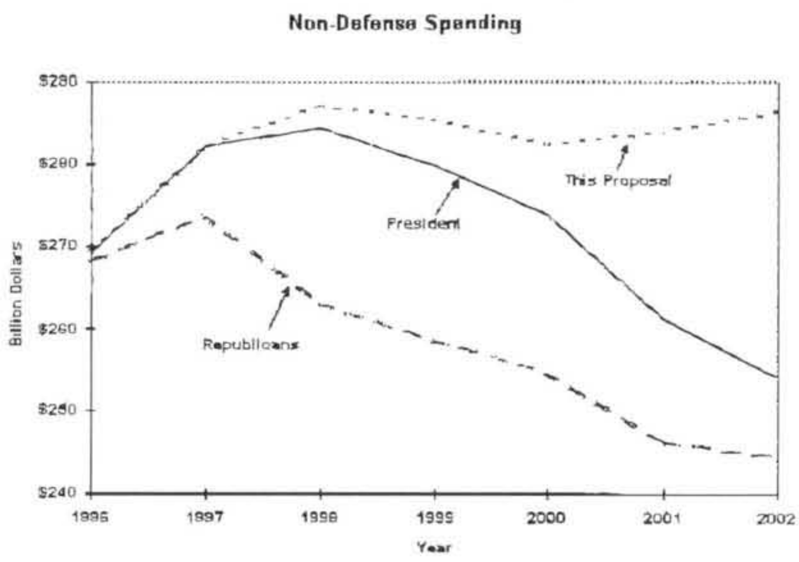


Figure 4

- The resulting overall discretionary spending is over $50 billion above the President's budget and $117 billion above the Republican budget but still provides $187 billion in savings over the current baseline. (Figure 5)

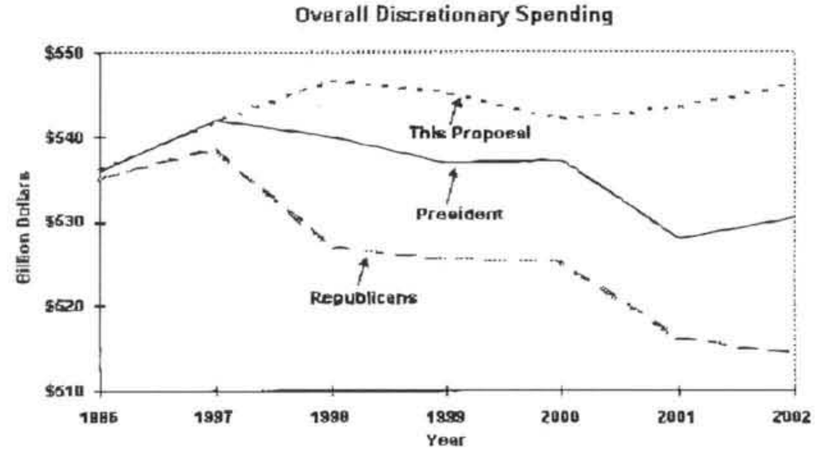


Figure 5

- For Mandatory spending, this proposal adopts the recommendations of the Coalition (Figure 6). This includes a number of programmatic reforms, some of which resemble the recently passed welfare reform bill, H.R. 3734. Full adoption of the welfare reform bill would provide an additional $13 billion in savings.

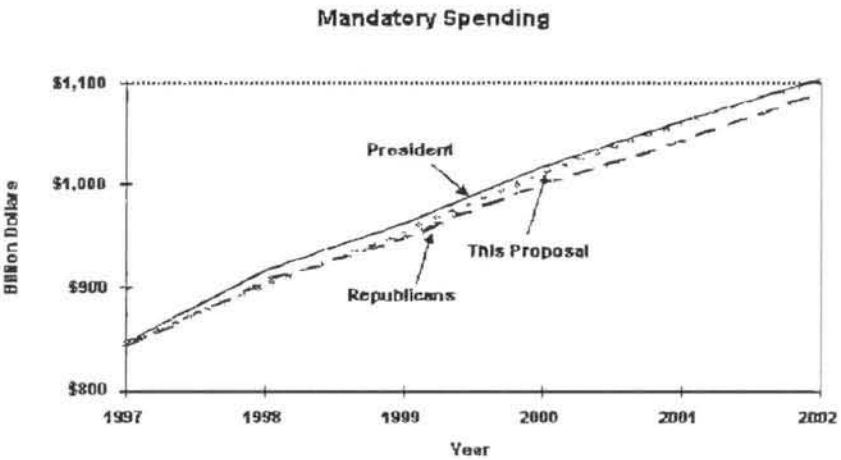


Figure 6

- For revenues, this proposal adopts the recommendations of the Coalition. This includes several revenue enhancing initiatives such as spectrum auctioning and elimination of tax loopholes but is most heavily influenced by the absence of a tax cut.

- For Net Interest, this proposal adopts the assumptions of the Coalition.

- The resulting deficit profile is more favorable than either the President's budget or the Republican budget and resembles somewhat the Coalition profile. (Figure 7) The deficit is eliminated by 2002.

Deficit Under Various Proposals

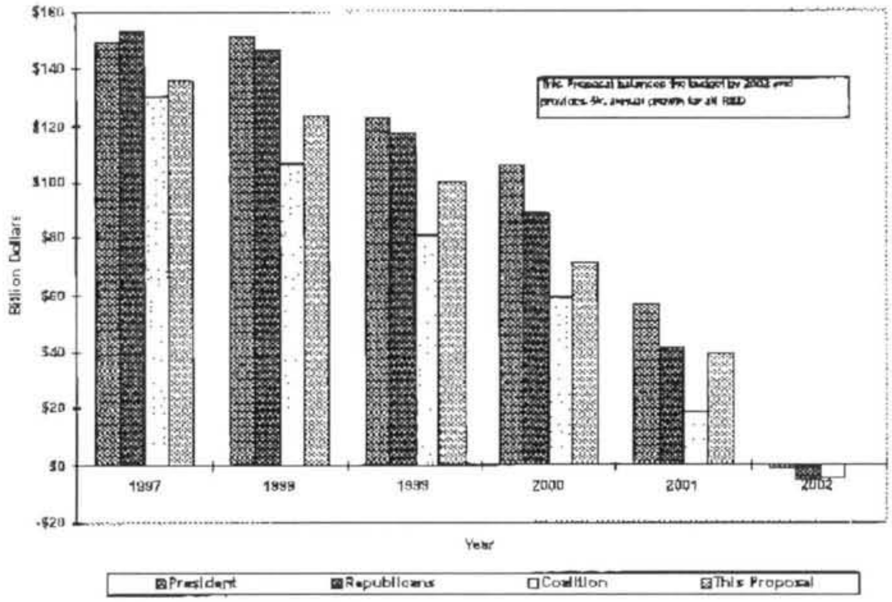


Figure 7

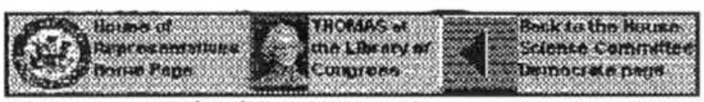
Although beyond the scope of this analysis, additional increases in some spending areas could be established after the budget is balanced in the same manner as proposed by the President. The highest priority candidates for this reinvestment would be high payoff areas such as R&D.

ENDNOTES

[1] Clinton-Gore policy paper ***Science in the National Interest***, August, 1994.

[2] Augustine, *et al.*, ***Report of the Advisory Committee on the Future of the U.S. Space Program***, December, 1990.

[3] For F.Y. 97, Senator James Exon (D-NE) has estimated that $4.6 billion has been added to the Defense Authorization bill for unrequested projects; Washington *Post*, July 19, 1996, page A-31.



[House of Representatives Home Page] [*THOMAS* at the Library of Congress] [Home Page, Science Committee Democrats]

Questions, comments and recommendations may be sent to the ***Democratic staff office****. Thanks.*

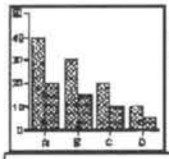
James H. Paul, Democratic Staff
Last updated: ***September 25, 1996***

2-A. Research Project Grant (RPG) Applications and Awards

2.1 Number of Competing RPG Applications and Awards

In FY 1993, women submitted 4,883 applications for competing RPG's, a 73 percent increase since FY 1984. Men submitted 16,788 competing RPG applications in FY 1993, an increase of 14 percent from FY 1984. The number of competing RPG awards for women has also risen over the period and peaked in FY 1993 at 1,123. The total number of awards to men during FY 1993 declined by 11 percent from FY 1992, while awards to women increased by 3 percent.

For the last 10 years, the percentage of competing RPG awards to women has been about one percent less than the percentage of competing RPG applications from women. From FY 1992 levels, the number of competing RPG's funded increased for women (1,123 vs. 1,091) but declined considerably for men (4,102 vs. 4,600). Proportionally, the number of awards to women increased by 2.9 percent from FY 1992, while the number of awards to men decreased by 10.8 percent for the same period. During the FY 1984 through FY 1993 period, the number of RPG awards decreased by 15 percent for men, but increased by 34 percent for women.



Distribution of NIH Competing Research Project Grant Applications and Awards by Gender, FY1984-1993. Resolution=730x552. File size=20,747 bytes.

Number of Competing Research Project Grant Applications and Awards*, by Gender, Fiscal Years 1984-1993

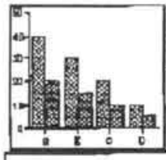
		1984	1985	1986	1987	1988	1989	1990	1991	1992	1993
Appls. Reviewed	Male	14,689	16,129	15,726	15,004	15,863	15,732	16,186	15,687	15,535	16,788
	Female	2,821	3,052	3,186	3,374	3,643	3,727	3,911	3,753	3,979	4,883
	Total	17,823	19,537	19,231	18,801	20,058	19,968	20,709	19,936	20,486	22,225
Awards	Male	4,844	5,505	5,173	5,511	5,186	4,499	3,945	4,679	4,600	4,102
	Female	845	934	997	1,062	1,088	1,055	963	1,039	1,091	1,123
	Total	5,758	6,523	6,268	6,740	6,453	5,709	5,087	5,858	6,090	5,344

*Excludes SBIR's; total includes gender nonresponse.

2.2 Number of Competing RPG Awards and Success Rates by Kind of Organization

Applicants from medical schools and other higher education institutions received the highest proportion of competing RPG awards during FY 1993. Medical school applicants received 2,837, or 53 percent, of RPG awards; other higher education applicants received 1,541 awards, or 29 percent, of the total number awarded.

In FY 1993, the success rate for competing RPG awards was highest, 25.0 percent, for research organizations. The lowest success rate came from applicants of other organizations, 16.4 percent. The success rate for women from medical schools was 25.4 percent compared to 24.7 for men, a difference of only 0.7 percent. Medical schools represented the only kind of organization in which women had a higher success rate than men. The maximum success rate disparity, 6.5 percent, occurred in other organizations.



Success Rates for NIH Competing Research Project Grant Applications by Kind of Organization and Gender, FY1993. Resolution=730x552. File size=17,176 bytes.

Number of Competing RPG Awards by Gender and Kind of Organization, Fiscal Year 1993

	Other Higher Education	Research Organizations	Independent Hospitals	Other Organizations	Medical Schools
Male	1,167	350	305	73	2,208
Female	349	92	98	20	563
Total*	1,541	452	418	96	2,837

Success Rate for Competing RPG Awards by Gender and Kind of Organization, Fiscal Year 1993

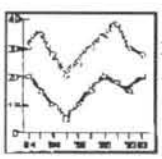
	Other Higher Education	Research Organizations	Independent Hospitals	Other Organizations	Medical Schools
Male	23.7	26.0	21.6	18.8	24.7
Female	20.2	22.4	21.6	12.3	25.4
Total*	22.6	25.0	21.7	16.4	24.7

*SBIR's are excluded; total includes gender nonresponse.

2.3 Success Rates for Competing Research Project Grants

In FY 1993, the success rate for competing RPG's was 22.6 percent for women and 24.1 percent for men, a difference of 1.5 percent. From FY 1992 to FY 1993, success rates fell for both men and women. Overall, success rates declined by 8.6 percent from FY 1984 to FY 1993, with FY 1993 registering the lowest rates for both men and women over the 10-year period.

In FY 1984, women submitted 16.1 percent of the competing RPG applications reviewed and received 14.9 percent of the RPG awards. For FY 1993, competing RPG applications from women and awards to women increased to 22.5 and 21.5 percent, respectively.



Success Rates for NIH Competing Research Project Grants by Gender, FY1984-1993. Resolution=730x552. File size=12,647 bytes.

Success Rate for Competing Research Project Grants* by Gender, Fiscal Years 1984 - 1993

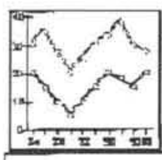
	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993
Male	32.8	33.9	32.8	36.5	32.6	28.4	24.3	29.5	29.4	24.1
Female	29.8	30.5	31.1	31.4	29.8	28.0	24.5	27.5	27.0	22.6
Total	32.2	33.2	32.5	35.7	32.1	28.4	24.5	29.1	29.5	23.6

* SBIR's are excluded; total includes gender nonresponse.

2.4 Success Rates for Competing RPG's by Type of Application

The success rates for male and female applicants have become nearly identical for new (Type 1) awards in FY 1993. In FY 1993, the success rates for new competing RPG's were 18.1 percent for women and 17.8 percent for men, a difference of 0.3 percentage point. In FY 1993, the success rates for competing continuation (Type 2) RPG's were 38.4 percent for women and 40.2 percent for men, a difference of 1.8 percentage points.

From FY 1984 levels, the number of new competing RPG awards increased for women from 541 to 703 but declined for men, 2,663 to 2,167. From FY 1984 through FY 1993, the number of competing continuations decreased for men, 2,181 to 1,935, but increased for women from 304 to 420.



Success Rates for NIH Competing Research Project Grants by Type of Application, FY1984-1993. Resolution=730x552. File size=12,956 bytes.

Success Rate for New (Type 1) Competing Research Project Grants* by Gender, Fiscal Years 1984 - 1993

	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993
Male	25.4	25.9	24.6	26.9	23.8	21.5	18.5	22.8	22.2	17.8
Female	24.4	25.2	24.4	25.2	23.3	22.7	20.7	22.8	22.5	18.1

Success Rate for Competing Continuation (Type 2) Research Project Grants* by Gender, Fiscal Years 1984 - 1993

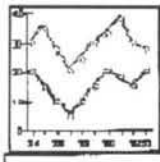
	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993
Male	51.2	54.9	51.5	56.8	53.3	45.5	38.5	45.2	46.0	40.2
Female	49.0	48.7	52.4	50.2	49.1	44.4	37.0	42.5	42.5	38.4

*Excludes SBIR's.

2.5 Percent Reduction in Direct Cost Requested by Award Type

Generally, budget requests from women are reduced less than budget requests from men for both new and competing continuation RPG awards. Women generally request less funding than men, and smaller requests generally result in smaller reductions from the amount requested.

Overall, about 90 percent of competing RPG awards received less funding than the amount requested. For new awards, the percentage reductions ranged from 13 to 22 percent for women and 16 to 24 percent for men during the FY 1984-1993 period. The reductions for competing continuation awards were slightly larger, from 17 to 27 percent for women and 19 to 27 percent for men.


Percent Reduction in Direct Cost Requested for NIH Competing Research Project Grant Awards by Type and Gender, FY1984-1993. Resolution=730x552. File size=15,826 bytes.

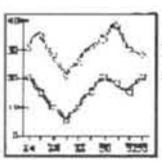
Percent Reduction in Direct Cost Requested for Competing Research Project Grant Awards*, Fiscal Years 1984 - 1993										
New Awards										
	1984	**1985**	**1986**	**1987**	**1988**	**1989**	**1990**	**1991**	**1992**	**1993**
Male	16.8	18.4	21.9	19.8	23.3	21.3	23.5	22.3	23.4	24.0
Female	13.9	13.8	20.1	15.2	16.3	16.2	19.3	17.2	19.3	22.0
Competing Continuations										
Male	24.2	19.2	26.0	20.9	25.6	24.3	27.1	24.3	25.4	25.2
Female	18.5	17.2	22.5	19.0	21.7	20.6	24.9	22.3	22.8	27.5

*Excludes supplements, carryovers and SBIR's.

2.6 Average Dollar Size of Competing RPG Awards

For both men and women, the average competing research project grant (RPG) award has increased since FY 1984 -- by 88 percent for women and 76 percent for men. The difference in the average amount of award, by gender, ranged from approximately $19.1 thousand in FY 1991 to $40.5 thousand in FY 1992; for FY 1993 this difference was $26.1 thousand. Women's competing RPG awards averaged $214.6 thousand in FY 1993; men's averaged $240.7 thousand.

As previously mentioned, Small Business Innovation Research (SBIR) grants are excluded from average award calculations because the application packages for SBIR grants do not contain requests for gender information.


Average Size of Awards for NIH Competing Research Project Grants by Gender, FY1984-1993. Resolution=730x552. File size=11,195 bytes.

Average Dollar Amount (in thousands) of Research Project Grant Awards* by Gender, Fiscal Years 1984 - 1993										
	1984	**1985**	**1986**	**1987**	**1988**	**1989**	**1990**	**1991**	**1992**	**1993**
Male	136.7	152.0	157.9	181.9	185.2	195.5	217.1	224.8	242.1	240.7
Female	114.2	126.4	126.5	148.5	160.4	167.0	188.8	205.7	201.6	214.6
All	133.4	148.1	152.2	175.9	180.0	190.0	211.1	220.3	235.1	235.8

*Excludes SBIR's; "All" includes gender nonresponse.

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revised: 96/11/26

NIH Extramural Data and Trends, Fiscal Years 1986-1995

Preface

The *NIH Extramural Data and Trends, Fiscal Years 1986-1995* provides data on the National Institutes of Health (NIH) extramural programs over the 10 years. Its purpose is to provide information regarding the funding of the various extramural programs, and to serve as a resource for assessing trends. The scope, complexity, and diversity of the extramural portfolio are designed to address scientific opportunities and to meet the myriad of public health needs, with the ultimate goal of carrying out the NIH mission of improving the nation's health through science.

The general areas covered in this publication include: research grants, research projects, contracts, institutional training grants, individual fellowships, profiles of recipient institutions as well as principal investigators, award mechanisms and the awarding Institutes or Centers. A new topic has been added: clinical research. The addition of this new topic was made possible by the recent establishment of the Director's Panel on Clinical Research, and its adoption of a definition for clinical research, thus enabling the NIH to begin analysis of clinical research awards.

Readers of the *NIH Extramural Data and Trends, Fiscal Years 1986-1995* should note several features: (1) At the beginning of FY 1993, three research institutes of the Alcohol, Drug Abuse, and Mental Health Administration -- the National Institute on Alcohol Abuse and Alcoholism, the National Institute on Drug Abuse, and the National Institute of Mental Health -- joined the NIH. Data presented in this publication include data for these three institutes for trend analysis, except where noted for contracts. Published data prior to FY 1993 are not comparable to data in this publication if data are not inclusive of these three institutes. (2) A glossary defines terms used in the publication.

The *NIH Extramural Data and Trends, Fiscal Years 1986-1995* is produced by the Office of Reports and Analysis, a component of the Office of Extramural Research, NIH. It is published on-line and will be updated periodically.

Access the Table of Contents

Access the Annotations to the Tables and Graphs

Comments and/or suggestions regarding the data are welcome and should be directed to the Office of Extramural Research at asknih@odrockm1.od.nih.gov

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