

AAAS October Update on R&D -

FY 2000 Begins Without Final Budgets; Federal R&D Funding Undecided

(This analysis is a progress report on FY 2000 appropriations as of the October 1 start of FY 2000, and summarizes the AAAS R&D Funding Updates released so far. The complete series of AAAS R&D Funding Updates, including continually updated analyses of R&D by agency in FY 2000 appropriations, is available on the AAAS R&D Web Site (<http://www.aaas.org/spp/R&D>) in the "R&D in FY 2000" or the "What's New" sections.)

The October 1 start of fiscal year (FY) 2000 has arrived, but Congress and the President are still a long way from completing FY 2000 appropriations for the federal government's discretionary programs, including federal support of R&D. Although they have given themselves another three weeks to complete work, final funding levels for most R&D programs are far from settled, and lawmakers may need even more time to resolve the numerous difficult choices standing in the way of final agreements on the FY 2000 budget. This update represents a progress report on where appropriations for R&D programs stand at this point in the budget process.

FY 2000 R&D in House and Senate Appropriations

Just last week, the House and the Senate finally managed to draft their respective versions of all 13 appropriations bills. The House and the Senate managed to resolve their differences over funding levels on only one of the nine bills (the Energy-Water bill) containing R&D funding before the October 1 start of FY 2000. As a result, Congress must still reconcile differences between House and Senate funding levels for nearly all R&D programs.¹ This update presents data on House and Senate funding levels for R&D in each chamber's appropriations bills.

The House and Senate differ widely in their treatment of R&D programs, leaving final funding levels for federal R&D very much in doubt. Because of tight budget caps within which defense spending would rise considerably, the House would make cuts to most non-biomedical research programs and would deny funds for several Clinton Administration initiatives. The Senate, working under the same budget caps, would provide increases for most R&D programs because it has made R&D a high priority and defense spending a lesser one. It remains to be seen whether the higher Senate funding levels, lower House funding levels, or something in between will prevail in final FY 2000 appropriations. (Note: All percentage changes below refer to current dollars and do not take account of inflation, projected at 2 percent for the coming year.)

- **The House would cut funding for most R&D funding agencies.** The House would provide \$38.3 billion for **nondefense R&D** in FY 2000, a slight increase of 0.3 percent over FY 1999, but only because the House would provide a substantial increase to the National Institutes of Health (NIH; see Table 1A). **Nondefense R&D excluding NIH would fall 5.0 percent**, or more than \$1.1 billion, to \$22.0 billion in the House plan. Especially hard hit would be R&D in the National Aeronautics and Space Administration

¹ The Energy-Water bill, which funds most of the Department of Energy (DOE), was signed into law on September 30. This Update does not reflect House-Senate conference funding levels for Energy-Water programs, but rather the House-approved and Senate-approved funding levels. Final DOE funding levels for R&D can be found in a September 29 DOE R&D Funding Update. Conferences have also concluded on the Agriculture and Transportation bills. Funding levels for R&D programs in these bills can be found in forthcoming R&D Funding Updates on USDA and DOT, scheduled for release on October 5.

(NASA; down 7.0 percent to \$9.0 billion); the Department of Commerce (\$844 million, down 21.5 percent), and the Department of Energy (DOE; \$6.8 billion, down 2.9 percent). Even the National Science Foundation (NSF), which received increases in previous years, would see its R&D decline by 2.7 percent to \$2.6 billion. Gray bars in Figure 1 show how agencies would fare in House appropriations as compared to FY 1999.

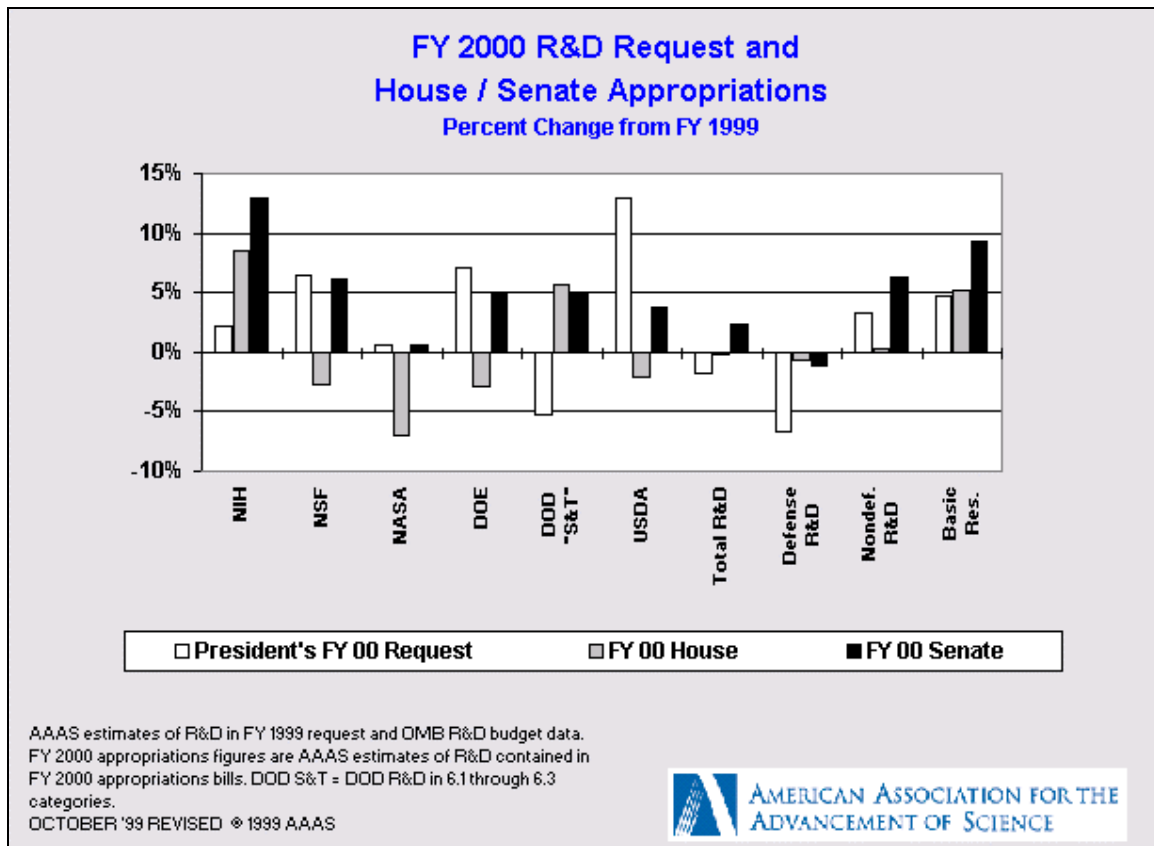


Figure 1.

- By contrast, **the Senate would provide increases for most R&D funding agencies.** The Senate would provide \$40.5 billion for nondefense R&D in FY 2000, a boost of \$2.4 billion or 6.2 percent over FY 1999 funding levels (see Table 1B). Although a majority of the increase would be due to a nearly 13 percent increase in NIH R&D, other agencies would also benefit from the Senate plan (see Figure 1). Nondefense R&D excluding NIH would rise a modest 1.9 percent to \$23.6 billion. The Senate would boost NSF's R&D by 6.1 percent to \$2.9 billion, just \$10 million short of the Administration request, and would increase Department of Energy (DOE) R&D by 4.9 percent to \$7.3 billion. The largest percentage increase would go to the Department of Commerce, with a 15.8 percent increase to \$1.2 billion, for both the National Institute of Standards and Technology (NIST) and the National Oceanic and Atmospheric Administration (NOAA). Black bars in Figure 1 show how agencies would fare in Senate appropriations as compared to FY 1999.
- **Defense R&D** would receive favorable treatment in both the House and Senate. House appropriations for defense R&D in the Department of Defense (DOD) and DOE would total \$40.9 billion, a cut of \$304 million or 0.7 percent below FY 1999, but \$2.4 billion more than the request (see Figure 1). The Senate would provide a similar appropriation of \$40.7 billion, with less for DOD but more for DOE. Both chambers' cuts would be concentrated in DOD's development activities and would be partly offset by increases for basic and applied research. The **"Science and Technology" portion of DOD's budget**

(encompassing basic and applied research plus exploratory technology development) would increase by 5.6 percent to \$8.2 billion in the House plan, including \$250 million for congressionally designated medical research. The Senate would provide slightly less but also \$8.2 billion, for an increase of 4.9 percent, including \$300 million for medical research (see Figure 1). Figure 1 also shows that DOD itself requested a cut for S&T. If House or Senate funding levels prevail in conference, FY 2000 funding would begin to reverse years of decline in DOD S&T, which provides significant portions of total federal support for engineering and physical sciences research.

- **Basic research would rise significantly under both the House and Senate plans**, but the increases would go mostly to life sciences and medical research funded by NIH. House action on R&D would result in total basic research funding of \$18.2 billion, an increase of nearly \$900 million (or 5.2 percent), but over \$700 million of the increase would go to an 8.5 percent increase in NIH basic research (see Table 2A). Although the total increase for basic research is similar to the request (see Figure 1), the President's request would have spread the increase more evenly among agencies. In the House plan, other agencies would see small increases, but NSF, the second-largest supporter of basic research and the largest supporter of most non-life sciences disciplines, would see its basic research decline by 0.7 percent to \$2.3 billion. NASA basic research would increase by 7.1 percent to \$2.3 billion, but mostly because of a reclassification of work from applied to basic research. DOD, the primary supporter of basic research in engineering, mathematics, and computer sciences, would see its basic research ("6.1") rise by 3.1 percent to \$1.1 billion.
- **The Senate would boost basic research funding by 9.3 percent or \$1.6 billion to \$18.9 billion**, mostly because of a \$1.1 billion or 12.9 percent increase for basic research in NIH (see Table 2B). Under both the House and Senate plans, NIH would account for the majority of federal basic research support for the first time. Although the Senate increases would go disproportionately to life sciences and medical basic research, the Senate would also boost funding for non-life sciences basic research, including a 7.9 percent increase for basic research at NSF, a 13.0 percent increase for NASA, and a 3.1 percent increase for DOD. Both the House and the Senate would provide flat to declining basic research funding for DOE, the primary supporter of physics research.
- As in FY 1999, the Clinton Administration presented a "**21st Century Research Fund**" in the FY 2000 request to highlight programs that it considers important to the nation's science and technology enterprise. The Fund includes both R&D and non-R&D items while excluding large parts of the nation's R&D portfolio (primarily in development). Tables 1A and 1B summarize appropriations for the Fund, which is intended to serve as one indicator of the health of the federal research enterprise in the budget process. House appropriations for the Fund total \$37.7 billion, 2.1 percent above FY 1999 but \$407 million below the Administration request. The House would cut the Administration's request for almost every nondefense R&D program, but would balance it by providing \$1 billion more than the request for NIH. The Senate would provide \$39.2 billion, \$2.3 billion or 6.1 percent more than FY 1999 and \$1.1 billion more than the request, again primarily because of NIH.
- Both the House and Senate would give a clear priority to **health-related R&D**, but would differ in their relative treatment of R&D for other **national missions**. The **House** would give an increase only to health-related R&D (mostly in NIH), with a \$1.3 billion increase to \$17.7 billion (see Table 3A). R&D for all other functional categories would decline. The House would reduce space R&D by 7.2 percent, and would slash commerce-related R&D by 38 percent to \$296 million, mostly because of the elimination of NIST's Advanced Technology Program. The **Senate** would be more generous to a broad range of R&D programs. The Senate would boost health-related R&D by 11.8 percent to \$18.3 billion (see Table 3B), but would provide increases for other national missions as well. Most civilian missions would see increases of at least the 2 percent expected inflation rate, except for cuts in transportation R&D (due to declining aeronautics R&D in NASA) and international R&D (based on an Administration-requested cut for R&D in the State Department).

R&D Appropriations for Key Agencies

(Full information on House and Senate appropriations for individual agencies can be found in the AAAS R&D Funding Updates on the AAAS R&D Web site. The Web versions of this document contain links from each agency listing to its most recent R&D Funding Update).

- The **National Aeronautics and Space Administration (NASA)** budget would decline steeply in the House plan, from \$13.7 billion in FY 1999 to a proposed \$12.7 billion, a cut of \$1 billion or 7.4 percent. NASA's Science, Aeronautics and Technology (SAT) account, which funds most of NASA's R&D, would decline 12.0 percent to \$5.0 billion because of deep cuts to the Earth Science and Space Science programs. The Senate, however, would provide the requested amount of \$13.6 billion for the NASA budget, a cut of 0.6 percent from FY 1999, and a slight increase for NASA's R&D programs. Space Science would decline 2.0 percent in the Senate plan and 7.7 percent in the House plan. Because of the large differences between the House and the Senate, it is highly uncertain what NASA's final budget will look like.
- There are also large differences between the House and the Senate over the **National Science Foundation (NSF)**. The House would cut NSF's budget by 2.0 percent to \$3.6 billion. Most of the research directorates would receive level funding; NSF had requested increases between 2 to 5 percent. Cuts in facilities funding would result in a 2.7 percent decline in total NSF R&D. The House would dramatically scale back first-year funding for the Administration's proposed Information Technology for the Twenty-First Century (IT²) initiative. NSF requested \$146 million for its role in IT², but the House would provide only \$35 million. The Senate, by contrast, would boost NSF's budget by \$211 million or 5.7 percent to the requested level of \$3.9 billion. NSF's R&D would climb 6.1 percent to \$2.9 billion. While the Senate would deny most of the request for IT², it would increase funding for similar information technology research by almost 40 percent.
- The House and the Senate both propose substantial increases for the **National Institutes of Health (NIH)**. The House would provide \$16.9 billion for NIH in FY 2000, \$1.3 billion or 8.5 percent more than FY 1999. The Senate would be even more generous with an appropriation of \$17.6 billion, exactly \$2 billion above FY 1999 for an increase of 12.8 percent. Both these amounts are well above the request of \$15.9 billion, which would have represented an increase of 2.1 percent. The Senate's generosity comes with a catch: \$3 billion would be withheld until the next-to-last day of FY 2000.²
- The House would slash R&D in the **Department of Commerce** by nearly one fourth. The House would provide only \$844 million for Commerce R&D, a reduction of \$231 million or 21.5 percent from FY 1999 funding levels. The House would eliminate the Advanced Technology Program (ATP) and make cuts to most R&D programs in the National Oceanic and Atmospheric Administration (NOAA). Intramural research in the National Institute of Standards and Technology (NIST) would remain at the FY 1999 level. The Senate, in sharp contrast to the House, would provide generous increases to most Commerce R&D programs, including ATP, for a 15.8 percent increase in total Commerce R&D (\$1.2 billion). Both NIST and NOAA would receive substantial increases.
- In the wake of growing congressional anger over security breaches and allegations of mismanagement at **Department of Energy (DOE)** weapons labs, Congress recently agreed to move DOE's weapons-related activities to a new semi-autonomous agency, the National Nuclear Security Administration

■ ² (NIH's R&D as shown in the Tables is slightly less than the total NIH budget after subtracting overhead and research training costs.)

(NNSA). The new NNSA may come into existence as early as this week when the President signs its authorization into law. Tables 1A and 1B show House and Senate proposed budgets for DOE, but most of DOE's budget has already been signed into law. The final Energy-Water bill gives slight increases to DOE's Science programs, and substantial increases for DOE's support of magnetic fusion research and weapons-related R&D. The Spallation Neutron Source project receives \$118 million, down from a requested \$214 million, and DOE's share of IT² receives no money. The rest of DOE's budget is still in House-Senate conference.

- The House would boost **Department of Defense (DOD)** funding of basic and applied research above both the President's request and the FY 1999 funding level. DOD's basic research ("6.1") would total \$1.1 billion, 3.1 percent above FY 1999, while applied research ("6.2") would total \$3.4 billion, more than 7 percent above the current year funding level. The House would provide \$60 million for DOD's role in the IT² initiative, down from the request of \$100 million. The House would also create a separate \$250 million appropriation for medical R&D, including \$175 million for breast cancer research and \$75 million for prostate cancer research. The Senate would provide similar increases for DOD "6.1", "6.2", and medical research accounts. The conference report for DOD (due to be completed this week) is expected to retain these increases.
- The **U.S. Department of Agriculture (USDA)** would receive \$1.6 billion for its R&D, a cut of 2.1 percent, in the House plan. This would be far below the request of \$1.85 billion because the House would block a new, non-appropriated competitive research grants program from spending a planned \$120 million in FY 2000. (The Senate would allow the release of \$50 million.) The Senate would be more generous with an appropriation of \$1.7 billion for total USDA R&D (up 3.8 percent). The conference report on the Agriculture bill was completed late last week, but was not available as this update was being written.
- The **Environmental Protection Agency (EPA)** would receive \$643 million for its R&D from the House and \$646 million from the Senate, for declines of 3.5 percent and 3.4 percent, respectively, but these amounts would be close to the request of \$645 million. Most research programs would be funded at FY 1999 levels.

Outlook for October and Beyond

As Congress struggles over final funding levels for R&D programs and other federal discretionary spending, the final status of FY 2000 R&D funding remains largely unsettled. Congress and the President have not even begun final negotiations on the shape of the FY 2000 budget because of the mistrust between them. All unsigned appropriations bills are covered by a **continuing resolution (CR)** providing temporary funding for all programs at FY 1999 levels through **October 21**, but few believe that even an extra three weeks will enable lawmakers to finish FY 2000 appropriations. In the interim, Congress is expected to complete as many appropriations bills as it can and send them individually to the President for his signature or veto. If the President vetoes bills, as he has threatened to with most of the bills containing R&D funding, there is no clear strategy in Congress on how to rewrite the bills to win his final approval.

Any appropriations bills not signed into law by October 21, which could be a majority of them, will likely be bundled into an omnibus appropriations bill, and funding levels will be hammered out in high-level negotiations between the Republican leadership and Administration officials behind closed doors.

The final negotiations are complicated by Congress' insistence on sticking to budget totals established in the FY 2000 budget resolution, which in turn were based on **discretionary spending caps** enacted in 1997. Under the caps, total FY 2000 discretionary spending must be cut more than \$30 billion below the amount appropriated for FY 1999 to \$538 billion. This goal proved unworkable, so then Congress switched to a dual game of sticking to the caps technically while spending \$14 billion, the projected amount of the **non-Social Security surplus**, above the cap. In the past month, even this has proved impossible. In a further retreat,

Congress now plans to technically stay within the cap, designate up to \$14 billion in spending above the caps as emergency spending (which is exempt from the caps), push as much spending as possible to FY 2001, and spend even more money to bring appropriations bills to acceptable funding levels by finding **revenue offsets** for any spending exceeding \$562 billion (\$538 billion cap plus the \$14 billion non-Social Security surplus). All these budgetary maneuvers should enable Congress to exceed FY 1999 discretionary spending of \$556 billion, preserve funding for domestic programs, award large increases for defense programs, and still keep its vehemently stated promise not to dip into the Social Security surplus.

Congress, however, is running into serious problems implementing this strategy. A recent Congressional Budget Office study estimated that current House and Senate spending plans would push discretionary spending well above \$600 billion and dip into the Social Security surplus by up to \$18 billion. Although the federal government has used Social Security surplus money every year for the past 40 years to finance government programs (including this year) and although such actions do not in any way reduce the Social Security Trust Fund's assets, both the President and Congress have vowed to stop this practice once and for all in FY 2000.

Congress has been engaged in a mad scramble to find offsets and budgetary tricks to enable it to keep its pledge. In addition to declaring farm aid, disaster assistance, veterans' medical care, and even the 2000 Census as emergency spending, in the Labor-HHS bill both the House and the Senate would push an unprecedented \$20 billion in spending from FY 2000 into FY 2001, borrowing from next year to finance this year. Last week, defense appropriators decided to reclassify defense spending which had been regular appropriations as emergency spending. The House proposed to rescind \$3 billion in funds promised to state governments as part of the 1996 welfare reform law, until an outcry from the nation's governors forced a retreat. Now, the House proposes to change payments of the Earned Income Tax Credit (EITC) from an annual payment to monthly payments. The EITC, a refundable tax credit for low-income working households, is currently paid out like other tax refunds in one payment in the spring after a tax return is filed. By shifting payment to a monthly schedule, more than half of the payments would take place in the next fiscal year. The federal surplus in the first year would increase (by an estimated \$9 billion), allowing for more FY 2000 spending without touching the Social Security surplus, but the refunds would only be delayed, resulting in no long-term budget impact. For EITC recipients, however, EITC credits claimed on a 1999 tax return would not be fully paid out until spring 2001, while all other taxpayers would receive their full refunds in spring 2000. Although Republican Presidential candidate and front-runner George W. Bush criticized the idea, the House approved a Labor-HHS bill containing this offset in order to keep its spending within its target.

This scramble to make the numbers fit has resulted in remarkable exercises in creative budgeting that could unravel, adding an extra layer of uncertainty to the already uncertain exercise of reconciling House funding levels to Senate funding levels. Although R&D funding has fared relatively well in the Senate bills and less so in the House bills, these funding levels are made possible by budgetary maneuvers that could be insufficient to meet the targets and by offsetting budget cuts that may not be acceptable to the President. As the FY 2000 appropriations process drags on, lawmakers will have to wrestle with the caps, the non-Social Security surplus, proposed congressional offsets, proposed alternative offsets (such as the President's proposed increase in the tobacco tax), emergency spending, forward funding to FY 2001, and defense vs. nondefense spending, and resolve this maze of issues before coming to a final conclusion of funding for individual programs.

Funding Trends for R&D in House and Senate Plans

As the FY 2000 budget process heads into the home stretch, federal R&D hangs in the balance. Figure 2 shows how House appropriations for FY 2000 would affect recent funding trends in R&D. Figure 2 shows the percent change in agencies' R&D budgets from FY 1994 to the FY 2000 House-proposed funding level in real terms (after adjusting for inflation). FY 1994 is the starting point because it is the recent peak in funding

for most nondefense R&D agencies and because it is the year before sharp cuts in discretionary spending began to bring the federal budget to surplus.

The House plans for R&D would give most agencies less for R&D in FY 2000 than in FY 1994, sometimes far less. Only NIH and NSF would be immune from the trend. Although NIH would see its R&D budget climb by 40 percent over the six years, NSF would see its R&D budget up by only six percent, or an average of just 1 percent a year. Other agencies, such as NASA, DOE, Commerce, and DOD's S&T programs, would face R&D budgets more than 10 percent below FY 1994 funding levels. Although total nondefense R&D would be up slightly, this increase would be due entirely to NIH. The last column shows that nondefense R&D minus NIH, the sum total of federal civilian investments in non-life sciences, non-biomedical R&D, would be down more than 10 percent if the House plans are enacted. Defense investments in basic and applied research in engineering, mathematics, and computer sciences would also be down by more than 10 percent.

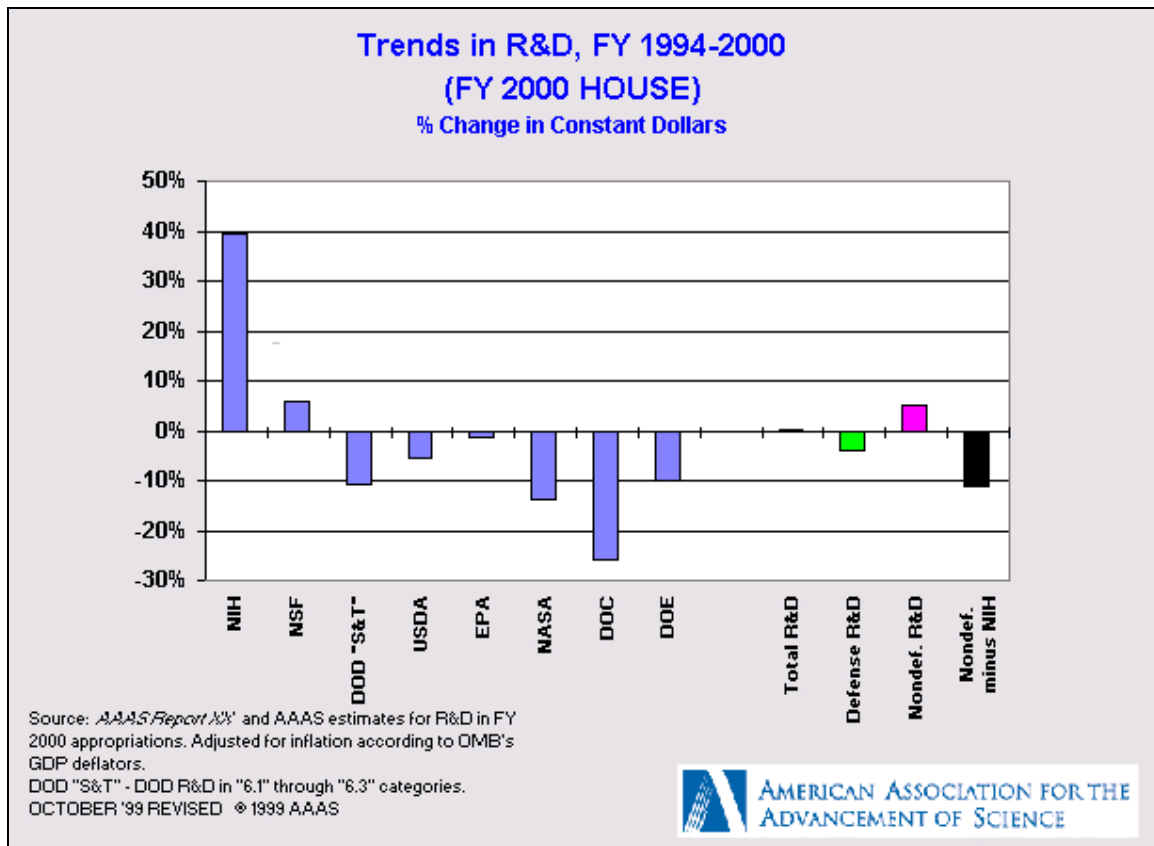


Figure 2.

Senate plans for R&D would be more favorable to R&D, especially in non-life sciences disciplines, as shown in Figure 3. NIH would be a big winner, as in the House plan, and would see its R&D budget increase by 45 percent compared to FY 1994. NSF, the primary supporter of non-life sciences research in most disciplines, would be well above the FY 1994 funding level, as would the Department of Commerce. Although other agencies would see flat or declining budgets over the time period, the decreases would be less than in the House-proposed budgets. Only DOD S&T would be more than 10 percent below the FY 1994 funding level. Total nondefense R&D would be up 11.1 percent from FY 1994 in the Senate plan. After subtracting NIH the cut between FY 1994 and FY 2000 would be 4.8 percent.

Lawmakers' debates in October and possibly November will determine which of the House or Senate scenarios, or what combination of the two, or even something entirely different, will ultimately prevail in FY

2000 appropriations. Congress and the President are well on their way to repeating last year's experience. In the FY 1999 budget process, both sides went into budget negotiations vowing to abide by the discretionary cap but ended up approving advance appropriations, emergency spending, and offsets to get around it. In order to finish appropriations, 8 of the 13 appropriations bills were bundled together in a 3,000-page omnibus appropriations bill cobbled together in frantic closed-door negotiations and rushed through Congress before most Members of Congress could even attempt to read it. It is looking increasingly likely that FY 2000 will be a repeat of the same situation. Although R&D fared well in the FY 1999 process, it is anyone's guess what will happen to R&D this time around.

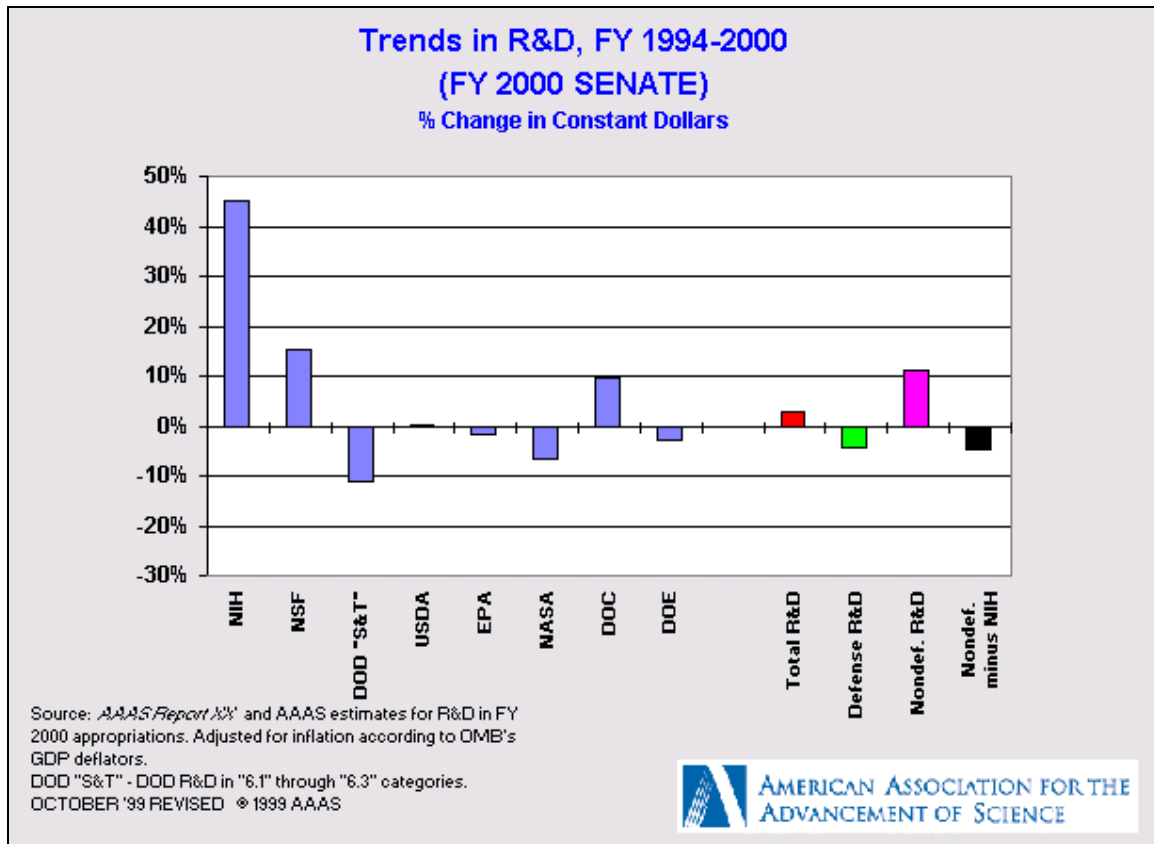


Figure 3.

(Further AAAS R&D Funding Updates on the AAAS R&D Web site will provide up-to-date information on R&D in FY 2000 appropriations, including final funding levels as they emerge from House-Senate conference.)

- October 4

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Table 1A. R&D by Agency in FY 2000 House Appropriations

Table 1A. Total R&D by Agency
HOUSE Action on R&D in the FY 2000 Budget
(budget authority in millions of dollars)

	FY 1999 Est.	FY 2000 Request	FY 2000 House	Action by House			
				Chg. from Amount	Request Percent	Chg. from Amount	FY 1999 Percent
Defense (military)	37,975	35,065	37,788	2,722	7.8%	-187	-0.5%
("S&T" 6.1,6.2,6.3 + Medical)	7,791	7,386	8,229	843	11.4%	438	5.6%
(All Other DOD R&D)	30,184	27,679	29,558	1,879	6.8%	-625	-2.1%
National Aeronautics & Space Admin.	9,715	9,770	9,032	-738	-7.6%	-683	-7.0%
Energy	6,974	7,467	6,775	-692	-9.3%	-199	-2.9%
Health and Human Services	15,750	16,047	17,061	1,014	6.3%	1,311	8.3%
(National Institutes of Health)	14,971	15,289	16,251	962	6.3%	1,280	8.6%
National Science Foundation	2,714	2,890	2,641	-249	-8.6%	-73	-2.7%
Agriculture	1,638	1,850	1,604	-246	-13.3%	-34	-2.1%
Interior	567	584	558	-26	-4.5%	-9	-1.6%
Transportation	603	836	656	-180	-21.5%	53	8.9%
Environmental Protection Agency	669	645	645	0	0.0%	-24	-3.5%
Commerce	1,075	1,172	844	-328	-28.0%	-231	-21.5%
(NOAA)	600	600	547	-53	-8.8%	-53	-8.8%
(NIST)	468	565	290	-275	-48.7%	-178	-38.1%
Education	224	276	223	-53	-19.0%	-1	-0.2%
Agency for Int'l Development	143	94	140	46	49.1%	-3	-2.0%
Department of Veterans Affairs	674	663	673	10	1.5%	-1	-0.1%
Nuclear Regulatory Commission	49	47	46	-1	-2.1%	-3	-6.1%
Smithsonian	138	146	142	-4	-2.6%	4	3.0%
All Other	443	353	348	-5	-1.3%	-95	-21.4%
Total R&D	79,350	77,904	79,177	1,272	1.6%	-174	-0.2%
Defense R&D	41,208	38,483	40,904	2,422	6.3%	-304	-0.7%
Nondefense R&D	38,142	39,422	38,272	-1,149	-2.9%	131	0.3%
Nondefense R&D minus NIH	23,171	24,133	22,021	-2,111	-8.7%	-1,149	-5.0%
Basic Research	17,276	18,101	18,175	74	0.4%	899	5.2%
Applied Research	16,640	16,642	16,543	-98	-0.6%	-97	-0.6%
Total Research	33,916	34,742	34,718	-24	-0.1%	802	2.4%
"21st Century Research Fund"	36,943	38,111	37,704	-407	-1.1%	761	2.1%
"FS&T"	48,326	49,404	48,794	-610	-1.2%	467	1.0%

AAAS estimates. Includes conduct of R&D and R&D facilities. Includes rescissions and emergency appropriations.

All figures are rounded to the nearest million. Changes calculated from unrounded figures.

FY 2000 House figures are AAAS estimates of R&D funding contained in FY 2000 House appropriations bills.

FY 2000 House figures represent House-approved or House Appropriations Committee-approved funding levels. House action only - Does not reflect House-Senate conference funding levels for Energy-Water, Transportation, and Agriculture bills.

Table 1B. R&D by Agency in FY 2000 Senate Appropriations

Table 1B. Total R&D by Agency
SENATE Action on R&D in the FY 2000 Budget
(budget authority in millions of dollars)

	FY 1999 Est.	FY 2000 Request	FY 2000 Senate	Action by Senate			
				Chg. from Request Amount	Percent	Chg. from FY 1999 Amount	Percent
Defense (military)	37,975	35,065	37,223	2,158	6.2%	-751	-2.0%
("S&T" 6.1,6.2,6.3 + Medical)	7,791	7,386	8,172	786	10.6%	381	4.9%
(All Other DOD R&D)	30,184	27,679	29,051	1,372	5.0%	-1,132	-3.8%
National Aeronautics & Space Admin.	9,715	9,770	9,770	0	0.0%	55	0.6%
Energy	6,974	7,467	7,313	-154	-2.1%	338	4.9%
Health and Human Services	15,750	16,047	17,702	1,654	10.3%	1,951	12.4%
(National Institutes of Health)	14,971	15,289	16,902	1,613	10.5%	1,931	12.9%
National Science Foundation	2,714	2,890	2,880	-10	-0.4%	165	6.1%
Agriculture	1,638	1,850	1,700	-149	-8.1%	63	3.8%
Interior	567	584	577	-8	-1.3%	9	1.6%
Transportation	603	836	630	-206	-24.6%	27	4.5%
Environmental Protection Agency	669	645	644	-1	-0.1%	-24	-3.6%
Commerce	1,075	1,172	1,245	73	6.2%	170	15.8%
(NOAA)	600	600	675	75	12.4%	75	12.4%
(NIST)	468	565	563	-2	-0.3%	96	20.4%
Education	224	276	233	-43	-15.7%	9	3.9%
Agency for Int'l Development	143	94	93	-1	-1.3%	-50	-35.1%
Department of Veterans Affairs	674	663	663	0	0.0%	-11	-1.6%
Nuclear Regulatory Commission	49	47	47	0	0.0%	-2	-4.1%
Smithsonian	138	146	140	-6	-4.2%	2	1.3%
All Other	443	353	392	39	11.0%	-51	-11.5%
Total Senate R&D	79,350	77,904	81,250	3,345	4.3%	1,900	2.4%
Defense R&D	41,208	38,483	40,729	2,246	5.8%	-480	-1.2%
Nondefense R&D	38,142	39,422	40,521	1,099	2.8%	2,379	6.2%
Nondefense R&D minus NIH	23,171	24,133	23,619	-514	-2.1%	448	1.9%
Basic Research	17,276	18,101	18,879	778	4.3%	1,603	9.3%
Applied Research	16,640	16,642	17,255	614	3.7%	615	3.7%
Total Research	33,916	34,742	36,134	1,392	4.0%	2,218	6.5%
"21st Century Research Fund"	36,943	38,111	39,212	1,101	2.9%	2,269	6.1%
"FS&T"	48,326	49,404	51,360	1,956	4.0%	3,033	6.3%

AAAS estimates. Includes conduct of R&D and R&D facilities. Includes rescissions and emergency appropriations.

All figures are rounded to the nearest million. Changes calculated from unrounded figures.

FY 2000 Senate figures are AAAS estimates of R&D funding contained in FY 2000 Senate appropriations bills.

Senate-approved or Senate Appropriations Committee-approved funding levels.

Senate action only - Does not reflect House-Senate conference funding levels for Energy-Water, Transportation, and Agriculture bills.

Table 2A. Basic and Applied Research in FY 2000 House Appropriations

Table 2A. Estimated Research by Agency
HOUSE Action on R&D in the FY 2000 Budget
(budget authority in millions of dollars)

	FY 1999 Est.	FY 2000 Request	Action by House				
			FY 2000 House	Chg. from Request Amount	Percent	Chg. from FY 1999 Amount	Percent
Basic Research:							
Health and Human Services	8,429	8,590	9,146	557	6.5%	717	8.5%
<i>National Institutes of Health</i>	8,427	8,588	9,144	556	6.5%	717	8.5%
National Science Foundation	2,333	2,514	2,316	-197	-7.8%	-16	-0.7%
Department of Defense	1,108	1,113	1,142	29	2.6%	34	3.1%
Department of Energy	2,225	2,281	2,232	-48	-2.1%	7	0.3%
National Aeronautics & Space Admin.	2,140	2,466	2,292	-174	-7.1%	151	7.1%
Department of Agriculture	677	776	693	-83	-10.7%	15	2.3%
Department of the Interior	51	53	53	0	-0.2%	2	3.4%
Smithsonian	128	136	132	-4	-2.8%	4	3.2%
Environmental Protection Agency	83	79	79	0	0.0%	-4	-4.8%
Department of Commerce	36	38	37	-1	-2.8%	1	3.5%
All Other	65	55	52	-3	-5.7%	-13	-19.7%
Total Basic Research	17,276	18,101	18,175	74	0.4%	899	5.2%
RESEARCH (basic and applied):							
Health and Human Services	13,657	13,899	14,791	892	6.4%	1,134	8.3%
<i>National Institutes of Health</i>	12,915	13,171	14,017	846	6.4%	1,102	8.5%
National Science Foundation	2,513	2,699	2,487	-212	-7.8%	-26	-1.0%
Department of Defense	4,259	4,072	4,516	443	10.9%	257	6.0%
Department of Energy	4,103	4,379	4,023	-356	-8.1%	-80	-2.0%
National Aeronautics & Space Admin.	4,468	4,424	4,156	-268	-6.1%	-312	-7.0%
Department of Agriculture	1,416	1,643	1,455	-187	-11.4%	39	2.8%
Department of the Interior	536	551	532	-19	-3.5%	-4	-0.7%
Environmental Protection Agency	470	447	447	0	0.0%	-23	-4.9%
Department of Commerce	846	878	687	-191	-21.7%	-159	-18.8%
NOAA	544	543	495	-48	-8.8%	-49	-9.0%
NIST	296	329	187	-143	-43.4%	-110	-37.0%
Department of Transportation	397	576	452	-124	-21.6%	55	13.7%
Department of Veterans Affairs	608	597	606	9	1.5%	-2	-0.3%
Department of Education	157	174	141	-33	-19.0%	-16	-10.3%
All Other	485	403	425	22	5.5%	-60	-12.4%
TOTAL RESEARCH	33,916	34,742	34,718	-24	-0.1%	802	2.4%

AAAS estimates. Includes conduct of R&D and R&D facilities.

All figures are rounded to the nearest million. Changes calculated from unrounded figures.

FY 2000 House figures are AAAS estimates of R&D funding contained in FY 2000 House appropriations bills.

House-approved or House Appropriations Committee-approved funding levels.

House action only - Does not reflect House-Senate conference funding levels for Energy-Water, Transportation, and Agriculture bills.

Table 2B. Basic and Applied Research in FY 2000 Senate Appropriations

Table 2B. Estimated Research by Agency
SENATE Action on R&D in the FY 2000 Budget
(budget authority in millions of dollars)

	FY 1999 Est.	FY 2000 Request	Action by Senate				
			FY 2000 SENATE	Chg. from Request Amount	Percent	Chg. from FY 1999 Amount	Percent
Basic Research:							
Health and Human Services	8,429	8,590	9,515	926	10.8%	1,086	12.9%
<i>National Institutes of Health</i>	8,427	8,588	9,513	926	10.8%	1,086	12.9%
National Science Foundation	2,333	2,514	2,518	4	0.2%	185	7.9%
Department of Defense	1,108	1,113	1,142	29	2.6%	35	3.1%
Department of Energy	2,225	2,281	2,208	-72	-3.2%	-17	-0.8%
National Aeronautics & Space Admin.	2,140	2,466	2,419	-47	-1.9%	279	13.0%
Department of Agriculture	677	776	715	-61	-7.9%	37	5.5%
Department of the Interior	51	53	52	-1	-2.0%	1	1.6%
Smithsonian	128	136	130	-6	-4.5%	2	1.5%
Environmental Protection Agency	83	79	79	0	-0.1%	-4	-4.9%
Department of Commerce	36	38	38	0	-0.5%	2	5.9%
All Other	65	55	62	6	11.0%	-4	-5.4%
Total Basic Research	17,276	18,101	18,879	778	4.3%	1,603	9.3%
RESEARCH (basic and applied):							
Health and Human Services	13,657	13,899	15,352	1,452	10.4%	1,694	12.4%
<i>National Institutes of Health</i>	12,915	13,171	14,581	1,410	10.7%	1,666	12.9%
National Science Foundation	2,513	2,699	2,746	47	1.8%	233	9.3%
Department of Defense	4,259	4,072	4,314	242	5.9%	55	1.3%
Department of Energy	4,103	4,379	4,312	-67	-1.5%	209	5.1%
National Aeronautics & Space Admin.	4,468	4,424	4,408	-16	-0.4%	-60	-1.4%
Department of Agriculture	1,416	1,643	1,490	-153	-9.3%	74	5.2%
Department of the Interior	536	551	544	-7	-1.3%	9	1.6%
Environmental Protection Agency	470	447	446	-1	-0.1%	-24	-5.0%
Department of Commerce	846	878	945	66	7.6%	99	11.6%
NOAA	544	543	611	68	12.4%	67	12.2%
NIST	296	329	328	-1	-0.3%	32	10.8%
Department of Transportation	397	576	436	-139	-24.2%	39	9.9%
Department of Veterans Affairs	608	597	597	0	0.0%	-11	-1.8%
Department of Education	157	174	147	-27	-15.7%	-10	-6.6%
All Other	485	403	397	-6	-1.5%	-88	-18.1%
TOTAL RESEARCH	33,916	34,742	36,134	1,392	4.0%	2,218	6.5%

AAAS estimates. Includes conduct of R&D and R&D facilities.

All figures are rounded to the nearest million. Changes calculated from unrounded figures.

FY 2000 Senate figures are AAAS estimates of R&D funding contained in FY 2000 Senate appropriations bills.

Senate-approved or Senate Appropriations Committee-approved funding levels.

Senate action only - Does not reflect House-Senate conference funding levels for Energy-Water, Transportation, and Agriculture bills.

**Table 3A. Major Functional Categories of R&D
HOUSE Action on R&D in the FY 2000 Budget
(budget authority in millions of dollars)**

	FY 1999 Est.	FY 2000 Request	Action by House				
			FY 2000 House	Chg. from Request Amount	Chg. from Request Percent	Chg. from FY 1999 Amount	Chg. from FY 1999 Percent
Defense ¹	41,208	38,483	40,904	2,422	6.3%	-304	-0.7%
Nondefense ²	38,142	39,422	38,272	-1,149	-2.9%	131	0.3%
Space	8,518	8,704	7,905	-799	-9.2%	-614	-7.2%
Health	16,379	16,664	17,688	1,024	6.1%	1,309	8.0%
Energy	1,173	1,353	1,162	-192	-14.2%	-12	-1.0%
General Science	5,365	5,668	5,219	-449	-7.9%	-146	-2.7%
Natural Resources & Environment	2,088	2,104	1,994	-110	-5.2%	-94	-4.5%
Agriculture	1,427	1,608	1,393	-215	-13.4%	-34	-2.4%
Transportation	1,799	1,902	1,783	-118	-6.2%	-16	-0.9%
Commerce	474	571	296	-275	-48.2%	-178	-37.6%
International	194	123	169	46	37.6%	-25	-12.8%
All Other	724	725	664	-61	-8.4%	-60	-8.3%
Total R&D	79,350	77,904	79,177	1,272	1.6%	-174	-0.2%

**Table 3B. Major Functional Categories of R&D
SENATE Action on R&D in the FY 2000 Budget
(budget authority in millions of dollars)**

	FY 1999 Est.	FY 2000 Request	Action by Senate				
			FY 2000 SENATE	Chg. from Request Amount	Chg. from Request Percent	Chg. from FY 1999 Amount	Chg. from FY 1999 Percent
Defense ¹	41,208	38,483	40,729	2,246	5.8%	-480	-1.2%
Nondefense ²	38,142	39,422	40,521	1,099	2.8%	2,379	6.2%
Space	8,518	8,704	8,704	0	0.0%	185	2.2%
Health	16,379	16,664	18,319	1,654	9.9%	1,939	11.8%
Energy	1,173	1,353	1,217	-137	-10.1%	43	3.7%
General Science	5,365	5,668	5,552	-116	-2.0%	187	3.5%
Natural Resources & Environment	2,088	2,104	2,130	26	1.2%	42	2.0%
Agriculture	1,427	1,608	1,497	-111	-6.9%	70	4.9%
Transportation	1,799	1,902	1,696	-206	-10.8%	-103	-5.8%
Commerce	474	571	569	-2	-0.3%	96	20.2%
International	194	123	122	-1	-1.0%	-72	-37.2%
All Other	724	725	716	-9	-1.2%	-8	-1.1%
Total R&D	79,350	77,904	81,250	3,345	4.3%	1,900	2.4%

AAAS estimates. Includes conduct of R&D and R&D facilities.

All figures are rounded to the nearest million. Changes calculated from unrounded figures.

Classifications generally follow the government's budget function categories except health (which here includes health R&D in HHS and VA).

¹ Includes DOD R&D and atomic energy defense R&D in DOE.

² Includes all R&D not in defense (domestic and international discretionary programs).

House-approved, Senate-approved, or Appropriations Committee-approved funding levels.

House or Senate action only - Does not reflect House-Senate conference funding levels for Energy-Water, Transportation, and Agriculture bills.